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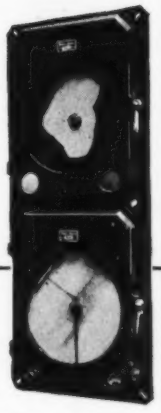

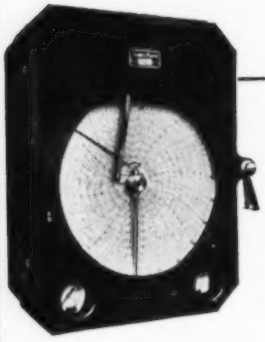

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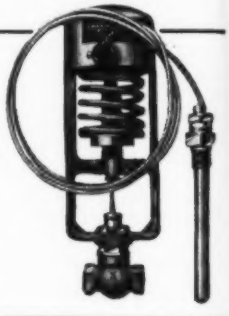

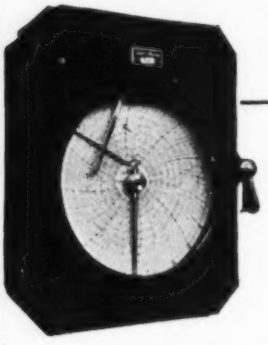

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FOOD MANUFACTURE

Vol. XXVIII. No. 2 · Published Monthly · February 1, 1953

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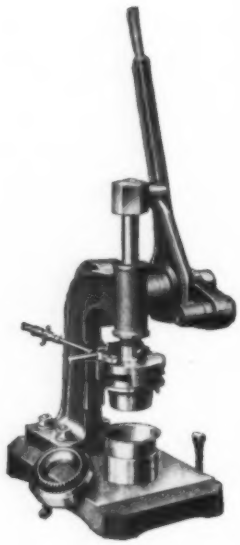

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FOOD MANUFACTURE

Vol. XXVIII, No. 2 February 1, 1953

Baking Research

INCLUDED in the latest bulletin issued to its members by the British Baking Industries Research Association is a recommended formula and method for the application by spray gun of glaze on buns. Another item is the description of an ingenious instrument for the measuring of oven spring which has been designed at the Research Station. This is so simple that it can be made for use in any bakery.

Papers on mechanical handling refer mainly to equipment likely to be used in medium to large bakeries and to the possibility of using glyceryl monostearate, lecithin, and certain other emulsions in shortbread biscuits.

Of general interest to the baking industry is a report which has recently been issued to members which contains a summary of the results obtained on the efficiency of dough dividers in operation in plant bakeries. The report, which is of particular value in relation to legislation affecting weights and measures, examines also the effect of the divider on the dough itself.

The Evolution of Animal Fats

THE evolution of fats appears to illustrate the loss and recovery of function, albeit in a somewhat changed form, during the development of the organism from less specialised into more specialised forms, and the discovery of the branched-chain fatty acids in fats of ruminants may be evidence of a vestigial characteristic carried through during development from bacteria to the more specialised forms of life. This was the conclusion arrived at by Dr. F. B. Shorland in a description of work carried out in the Fats Research Laboratory, New Zealand, as well as by other workers (*Nature*, **170**, 4335, 924).

Dr. Shorland describes the fat metabolism of animals from the early stages of evolutionary development as exemplified by fishes to the final stage as exemplified by certain ruminants. After describing the nature of the different fats in these animals, Dr. Shorland comes to the conclusion that the complexity of the fats of the less highly organised animals is largely owing to the fatty acid composition of the diet, as indicated by the fact that fish, when fed on unusual diets, will deposit in their depots fats which are different from the usual aquatic type. For example, eels when fed fats of fatty acid composition different from that originally present in their depots have been shown to modify their depot fat to resemble more closely the dietary fat.

Further, it follows that if the dietary fat were similar in fatty acid composition to that of "synthetic" fat, all groups of animals would tend to lay down fats of somewhat similar fatty acid composition; but if fed a dietary fat of different fatty acid composition as, for example, linseed oil, then differences in fatty acid composition of the depot fats would be observed.

Animals which had reached the first stage of development in regard to fat metabolism (*a*) would have fat in their depots, of which the fatty acid composition resembled that of linseed oil. Animals in the second stage of development (*b*) would lay down fats consisting of a mixture of "synthetic" fat and linseed oil, the proportions of the latter in the depot fats depending on the proportions in the diet and on the rate of growth, whereas animals in the third stage of development (*c*) would show in their depots no appreciable evidence of linseed oil but their fat would consist almost entirely of the "synthetic" type.

From the work of Anderson, it is apparent that bacilli are able to synthesise lipids from non-fatty sources. The fatty material in this instance, however, is non-glyceridic in nature and, moreover, contains, for the most part, branched-chain fatty acids in contrast to the straight-chain even-numbered carbon-atom acids characteristic of the rest of animal and plant life.

Pomerferin—A New Antioxidant

THAT pomerferin might be a good antioxidant, available in quantity and at low price, was suggested by Dr. John R. Clopton of the University of Colorado, at a meeting of the American Oil Chemists' Society. Pomerferin belongs to the same family of compounds as does naringin, from grapefruit; hesperidin, from oranges; corsitan, obtainable by hydrolysis of hesperidin; and norconidendrin, a by-product of sulphite pulping.

This substance is obtained from the Osage orange

which grows on a medium sized tree native to Arkansas, Oklahoma, Louisiana, and Texas, and naturalised over most of the eastern U.S. Of the pulp of the fruit, the large proportion of 10 per cent. has definite antioxidant properties ascribed largely to the isoflavone pomerferin.

For the production of pomerferin, the fruit is crushed or sliced, and dehydrated, the crystallised compound being obtained by extraction with diethyl ether. Finding that its already good antioxidant properties could be improved by blending the crystalline compound with amorphous constituents of the fruit, Dr. Clopton tried adding the dried fruit, minus seeds, to hot lard, and removing the pulp by filtration, a step that might be relatively simple commercially during final purification of the lard.

No objectionable materials are introduced into the lard by this technique, and a prolonged series of tests demonstrated that 0·5 per cent. by weight of the pulp, or 0·05 per cent. pomerferin, preserved lard for more than 80 hours in the Swift stability test apparatus. This compares very favourably with the commercial antioxidants as used in 0·01 per cent. concentrations. No separations of the antioxidants need be made, and no synergists or solubilisers need be added to give satisfactory stabilisation.

While not so good as butylated hydroxyanisole (BHA) in carry-over, laboratory tests on pomerferin show that it has some such effect.

The author recognises that considerable work must be done before pomerferin could be adopted for food use, such work including toxicity studies required for Food and Drug Administration approval, and more detailed confirmation of the preliminary studies on the amount required for adequate protection of food against rancidity.

Detergents and Dermatitis

A COMMENT on the view taken by some members of the medical profession on the effect of synthetic detergents and the incidence of hand dermatitis is made in *Manufacturing Chemist*, December, 1952. "Some firms evidently think that the percentage of dermatitis cases arising from the use of detergents is so small that the problem can be ignored. A different view is taken by the manufacturers of 'Tide' in America, the firm of Procter and Gamble. In a recent issue of the *Journal of the American Medical Association*, they published a two-page advertisement setting forth basic facts about detergents for the guidance of doctors. They state that extensive, medically supervised tests of their products indicate that household detergents in use today do not, as a class, differ greatly in their effect on the skin from the general-purpose soaps that have been used for years; indeed, some have a *p*H lower than soaps and thus have less effect on skins sensitive to alkali.

"It is frankly admitted that detergents generally are mild primary irritants, but this also applies to soaps.

"It is logically pointed out that women have had many years in which to learn whether or not all soaps or certain soaps prove irritating in each particular case, so that any problems arising from the effect of soap on skin have been spread over decades. But the use of detergents has spread swiftly and widely; at the start of 1948 they accounted for less than 10 per cent. of the 'laundry soap' business in the U.S., while by the end of 1951 they accounted for over 60 per cent. Thus, millions of people have been exposed to detergents in a concentrated period of two to three years.

"The great popularity of detergents makes it inevitable that in almost every case of dermatitis it is possible to find that detergents have been used. But this does not necessarily mean they are responsible. To reinforce this argument, Procter and Gamble have prepared a booklet for issue to physicians setting out the facts and evidence in greater detail. Their campaign is a good example of restrained and reasoned propaganda which can profitably be followed by those who think that the dermatitis charge against detergents should be actively countered."

Fluorine and Dental Caries

IN view of recent discussions on the fluorination of water supplies, the article describing the experiments made by Charles Dillon, D.D.S., L.D.S. (*The Dental Practitioner*, **3**, 3, 79), is of interest. In the course of his experiments he found that there was a fundamental difference between the action of sodium fluoride and calcium fluoride upon bone. Sodium fluoride reacts with bone, displacing phosphate aggressively while still in concentrations low enough to be completely ionised, while calcium fluoride does not react but is progressively absorbed.

If a water supply containing calcium ions is fluorinated with sodium fluoride, then, depending on the amount of calcium ions present, the fluorine may reach the blood stream in balanced proportions and behave towards bone as calcium fluoride, but if there are not sufficient calcium ions present in the water to balance the amount of sodium fluoride added, the toxic effects attributable to sodium fluoride will be present to a degree.

The author believes that under certain conditions there may exist an inverse relationship between dental caries and a water supply containing fluorine.

The advocates of fluorination, he says, lay great emphasis on the care and precision with which the supply of fluorine is going to be controlled, and there is no doubt but that this can be done. What precisely is the reason for controlling the amount of fluorine in the water supply so carefully to the near-

est milligram while permitting the "medicine" to reappear on the table embodied in various foodstuffs to be consumed in unmeasured quantities?

It should be the first duty of Public Health Authorities to ascertain by analysis what amounts are being taken in every item of food and drink. No data has been given of the fluoride content of the foods that come to this country from abroad. Fluorination is international in its implications, for if in the regions from which we draw our foodstuffs it is decided to fertilise pasture lands with rock phosphate, containing a high percentage of fluorine, then the content of the streams, runnels, water-holes, and ponds will be correspondingly high. Livestock, drinking from these sources, will be imported into this country as meat with a high fluorine content as will the soup made from the bones of these animals, and it is possible that the weak, the sick, the aged, and those suffering from glandular disturbances may already be consuming more fluorine than is good for them.

Again, what of the workers in industry who are exposed to fluorine during long working hours? It is possible that the addition of a little more to their water supply may tip the balance. Industry in its own defence should resist fluorination.

If a doctor prescribes a drug that is known to have a cumulative effect, he sets a time limit to his medication, just in case the cure becomes worse than the disease. But when it comes to fluorination, apparently it is the patient who must prove that the "medicine" is doing him harm!

Argentine Prospects

THE industrialisation drive that dominated the first Perón five-year plan has achieved surprisingly little success. Argentina's balance of payments year by year has been steadily and increasingly adverse—only in 1950, as a result of the Korean crisis and the stock building demand for all materials, has there been a positive balance since the war. The officially estimated adverse balance for 1952 is as high as 1,500 million pesos, three times as much as that of 1951.

None of this would be so dangerous, however, if agriculture had not been sacrificed for post-war industrialisation. Labour has been drained from the land by the boom in the cities and factories. In 1951-52 only 12·1 million hectares of grain crops were sown compared with the pre-war average of 20·3 million hectares. General Perón is having to turn from his industrial disappointments to revive as quickly as possible a neglected and embittered agriculture. This revival, he has already said, must be the backbone of the second five-year plan.

The disbanding of IAPI, the government trading organisation that has been buying cheaply from farmers at State-fixed prices and passing huge profits to industry, has already been hinted at. It may have to become an accomplished fact before the farmers are ready to respond to the sudden courtship of the Perón regime. Already credits have been eased for agriculture although they have been severely tightened for industry.

Whatever is done, it is technically impossible for Argentina's pre-war level of grain and meat output to be regained in as little as one or two years. The profits made from war-time and post-war food exports have not been ploughed back into the soils and farms.

Plums

THE long and complicated sequence of events ending with the appearance of the mature plum on the tree, and its escape from the perils of frost, from bacteria, and from insect pests is sadly neutralised by human intervention and consequent gluts. Commenting upon this, and upon the fact that not more than two-thirds of the plum crop in the Vale of Evesham was gathered last season, Mr. A. H. Hiller, speaking at a recent meeting of the Warwickshire branch of the National Farmers' Union at Leamington described another problem confronting the fruit growers: the saving of this year's yield from infection by the mummified remnants of the unpicked fruit on the trees. He attributed the size of last season's crop to what he called the "deeply lamented invention" of a tar oil wash which had eliminated the caterpillar pest with the result that there had been a very large glut of plums.

It is a pity that man cannot so arrange things that a nice balance could be preserved between the number of caterpillars required to keep down the crop to dimensions manageable by existing labour! Or could there be such a thing as mechanised picking?

DDT Dangers?

NEW and disturbing evidence to support the view that DDT residues upon foodstuffs may involve health hazards have been put forward by scientists at the U.S. Public Health Service Communicable Disease Centre in Savannah. The trouble with DDT is that it is soluble in fats. It is not, as water-soluble materials would tend to be, quickly washed out of the human system.

It will be recalled that in 1949 there was sudden concern about the accumulation of DDT in the fat fraction of milk and in beef fat, as a result of which the U.S. Food and Drugs Administration issued an order that permitted no tolerance for DDT in milk, butter, or other dairy produce. The new evidence concerns the presence of DDT degradation products in the fat of human beings who, so far as is known,

had not been excessively exposed to DDT. It is reported that substantial proportions of DDE, a chemical substance that is produced when DDT breaks down, have been found. It is not known whether the breaking down of DDT in the body takes place during digestion or only after it has accumulated in the fatty tissues.

On the other hand DDT has eradicated malaria in Cyprus and almost expelled it from Ceylon. Its services to world health are already huge and in no sense can they be called dubious. No one with an objective outlook could say that the case against DDT was proven, but these indications show that its widespread use as an insecticide carries unknown risks.

It may be that it will eventually be decided that its use is more dangerous in agriculture and horticulture than in public sanitation. The residues upon crops may be small, but they are much more likely to enter the human system with some regularity.

Insecticide research at Rothamsted and by the Pest Infestation Research Board's laboratories is concerned largely with pyrethrum and its synthetic chemical relatives. These materials are not used to any great extent in British crop protection today, but they are very much less toxic to human beings and animals. Are these two leading research centres anticipating some future situation when it will be necessary to replace DDT in crop spraying or dusting by a safer material?

Thaw Signal

AT the present time the consumer of frozen foods has no protection against the risk of thawing and deterioration should this take place between the processing factory and the retailer's refrigerator. The package of frozen food will be less satisfactory even though thawing has been stopped by the further freezing in the shop.

A new American invention consists of an indicator label made of sodium carboxy-methyl cellulose, a synthetic substance that is extremely sensitive to moisture. This label is printed with the words "This package has not been thawed." Directly underneath the label, printed on the container, is the word "Thawed." If at some stage in distribution thawing takes place, the label is quickly distorted by the presence of moisture and the printed message on it disappears. The material becomes transparent, which allows the warning "Thawed" to become visible.

This device certainly seems useful; it also possesses good sales-appeal. It might be wondered, however, whether a slight amount of surface moisture unconnected with internal thawing will not affect the label, thus giving a false warning.

An Apple a Day

OSSA has been piled on Pelion. Not long ago we read with bated breath about a "natural wonder food," and now we are confronted with a "natural wonder beverage," offering the potential partaker thereof a bewildering choice of treatments for all the ills the flesh is heir to.

The secrets are contained in a little book of 40 pages entitled "Cider Vinegar" by Cyril Scott, a companion volume to "Crude Black Molasses." This eulogy of "a common table fluid" is a modern interpretation of the old belief that an apple a day keeps the doctor away. Apples, we are informed, contain those very important chemical ingredients: phosphorus, chlorine, potassium, sodium, magnesium, sulphur, iron, silicon, "plus many trace elements." Only the transuranium elements will be missing from our table as from the chemist's Table. Cider vinegar, referred to from page 2 as "C.V.," seems to rival TV in wonders; it favours oxidation of the blood, prevents intestinal putrefaction, retards the onset of old age, cures and prevents obesity, and promotes digestion for the simple reason that C.V. "bears closer resemblance to the digestive juices than any other liquid."

We are warned, however, that "obesity cannot be expected to vanish in 24 hours; nor is it desirable that it should, as the skin requires ample time to readjust itself." Having avoided walking around looking like a half-deflated toy balloon, we pass on to read about other ills cured by C.V.

After operations, for example, C.V. dosage effects quick healing. In nasal medicine a "stuffy nose" requires heated C.V. as inhalant, along with C.V. (liquid phase) as beverage. A "miraculous treatment" for acute laryngitis, it is also a prophylactic against senility, and a catalyst for mental vigour. To obtain proof of its antiseptic properties when taken internally, we are told to pour C.V. over the daily ration of each cow in a herd and note how odour disappears from the dung.

After giving details for the treatment of nettle-rash, vertigo, twitchings, eczema, and the use of C.V. along with horseradish as hair restorer (a teaspoonful twice a day, but it takes one or two months to get the hair), the author concludes with a toast to the "vinegar-honey-molasses trinity," coupled with a skilful puff in favour of "the priceless boon to mankind known as osteopathy." It may be left to the *cognoscenti* to evaluate all this, while recognising the remarkable virtues of suggestion.

TO AUTHORS

FOOD MANUFACTURE is prepared to consider the publication of articles on the subjects covered. Books on food would also be considered.

Biscuits in Canada

When biscuits are offered for sale anywhere in Western Canada, it is likely that they were made at the Winnipeg plant of Christie, Brown and Co., the western hub of a major trans-Canadian food organisation, which is now 91 years old.

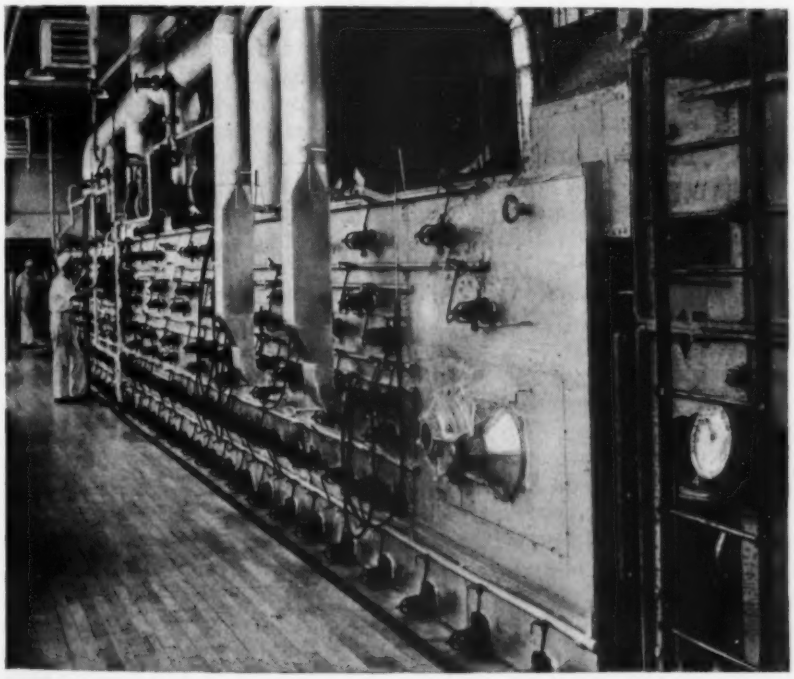
FORMED in Toronto in 1862, the Christie, Brown Company has since built many factories in Canada and the U.S.A. The present Winnipeg plant was constructed in 1931, and served as a prototype for a new series of streamlined plants. A model of this plant was shown at the Chicago exposition of the mid-thirties as an outstanding example of industrial design.

The biscuits are cut from the dough, embossed, and placed on oven pans.

Output and Products

In the Winnipeg plant, about 3¼ million biscuits are manufactured daily, practically the whole of them being sold between the Great Lakes and the Pacific Coast, a market with a population of about 2,500,000. A sales agency is combined with the plant serving the company's largest individual sales area in Canada or the U.S.A.—Manitoba, Saskatchewan, and North West Ontario.

Among the products manufactured are Ritz biscuits (a cheese-flavoured soda biscuit), crackers, arrowroot biscuits, a highly popular biscuit the main ingredients of which are Graham flour and honey, ginger biscuits, dozens of varieties of iced and sandwich biscuits, and ice cream cones. To manufacture these, more than 100 different raw materials are used. Most of the products are sent to major sales agencies at Calgary and Vancouver, and to lesser degree, to branches at Saint John, Halifax, Quebec, Montreal, Ottawa, Windsor, and London.



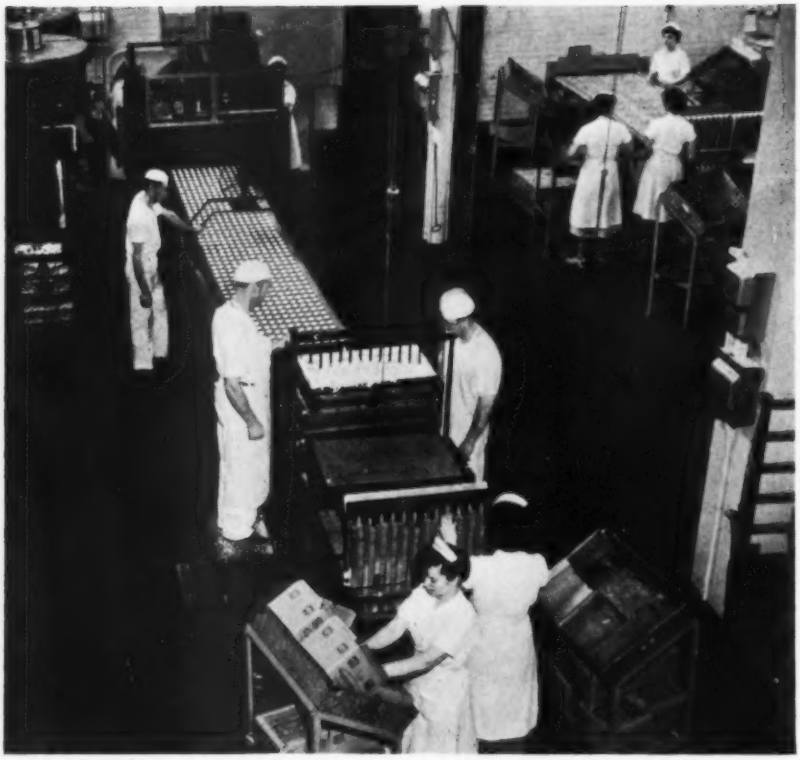
In the oven, the biscuits travel 225 feet on three tiers.

Processing Operations

A tour of the plant begins and ends in the same place, a spur track completely enclosed at the rear of the factory which holds seven railway trucks. To this come the raw materials; from it go the finished, packaged products.

The raw materials are stored on a mezzanine floor until required for weighing for the different batches. Bagged flour is taken up into a tower rising above the general level of the plant, and is screened seven times on the way down before being weighed in a hopper from which it is dumped into large mixing bins.

In the mixing room, iced, hot, or normal temperature Winnipeg water, according to the type of bis-



A marshmallow machine and enrober is used to produce chocolate delicacies.

cuit being made, is added. For the savoury biscuit, large quantities of Old Ontario aged cheese are added at this stage; in the case of sweet biscuits, sugar or honey is used. Other ingredients, such as shortening, are now added, the average batch consisting of 3,000 lb. of dough.

The mixing tub is then locked under a mixer fitted with rotary blades. Mixing is measured by revolutions of these blades (shown on automatic counters), not by time. For the arrowroot mix, for instance, a spindle mixer is used which gives 18 revolutions a minute. Sheets of dough are then fed on to an automatic rolling, cutting, and baking unit. They pass under four rollers automatically sprinkled with flour to prevent adhesion before the sheets are thin enough to be cut into biscuits. The dies used for this purpose, weighing up to 450 lb. each, emboss the patterns on the biscuits. The dough trimmings are fed back by an overhead conveyor belt for remixing.

The biscuits then slide on to oven pans for baking in the gas heated oven. In three to five minutes, according to variety, the cooked biscuits emerge from the oven and then, still on pans, move over a tiered cooling system, the temperature dropping from 500° to 100°F. They are then automatically removed from the machines, transferred to the stacking machines which slide them into channels, and filled by hand into cartons.

In the case of Ritz biscuits, they are first sprayed with warm coconut oil to give them a golden hue, while in the case of iced and other biscuits, numerous additional operations have to be carried out before they are ready for the packing department.

Special cartoning machines fold greaseproof paper into linings and insert these into formed cardboard cartons at the rate of 50 a minute. These cartons are filled and weighed, closed, and then pass under a labelling machine which deals with 100 cartons a minute. The cartons are placed in large containers and checked into the sales agency, which governs movement of all consignments to the rail siding, and thence across Western Canada.

Hygiene and Staff Welfare

Typifying hygienic production methods, the plant not only has a full-time sanitation foreman responsible only to senior executives of the firm, but it is also periodically inspected by qualified sanitary inspectors retained by the company to tour all Christie plants.

Bright airy rest rooms with lockers provided, washrooms and showers, and a fully equipped cafeteria, are at the disposal of all employees.

The construction of an extension to the existing factory, 400 feet long, will be built, which will double the plant's productive capacity this year.

The Advantageous Use of Steam

THE results of investigations on the heating effect of flowing superheated and saturated steam are contained in a recent monograph,* which cannot fail to interest most food manufacturers, who are large steam users. The experiments were carried out by the author at the suggestion and under the direction of Prof. E. Kirschbaum in the Institute for the Design and Construction of Chemical Apparatus and Equipment at the Technical University in Karlsruhe. The work is notable for its clear exposition of the numerous tests carried out.

According to the investigations, at equal pressures in the steam spaces and identical types of condensation, the heating effect of superheated steam, at the velocities and temperature drops usually encountered in practice, is superior to the heating effect of saturated steam.

Deviations of the experimental results from calculated values lead to a number of conclusions regarding the flow of heat within the water layer on the cooling surface. The work also contains a number of interesting observations made under varying operating conditions.

* *The Heating Effect of Flowing Superheated and Saturated Steam.* By Dr. Georg Winckelsesser. Pp. 12. Dechema, Frankfurt/M. Price for members of the Dechema, D.M. 9.50; for non-members, D.M. 11.90.

The Confectionery Industry

Progress in 1952

R. L. Kenny, B.Sc., F.R.I.C.

Rationing has remained throughout the year, both in the form of raw material allocation to the manufacturer and in the finished product to the consumer. Nevertheless, there has been relaxation of controls with regard to both retail selling prices and packaging. Manufacturers have had to rely extensively on imported raw materials at premium prices in order to maintain the existing scale of rationing since the amount of allocated material has fallen considerably short of demand. Efforts have been made to find alternative schemes for allocation of raw materials other than the existing method based upon pre-war usage, but so far success in this direction has not been achieved, and no alternative has been found which will represent a fairer means of distributing the limited quantity of raw material available. It might well be necessary, therefore, to maintain a *status quo* until decontrol can become a reality.

THE year under review has been an extremely difficult one because the maintenance of the 6 oz. ration has been possible only by supplementing the allocated raw materials with the acquisition of partly processed ingredients imported from the Continent at premium prices. This policy has been widely criticised, for while it enables sugar to be purchased from sterling areas on a balance of payments basis, the industry has had to pay dearly to acquire it in the form of such compounds as piping jelly, fondant, and sugar fat. Naturally, the selling prices must be related to the raw material costs and, therefore, it is the public in the end who have had to share some of the burden, although manufacturers have absorbed a large proportion by reducing their profit in order to maintain output.

The position eventually became so complex that the Government were obliged to introduce individual licences for the importation of these products related directly to the amount which had been imported during a previous basic period. Such licences have only permitted a very small proportion of the original intake to be purchased, with the result that such raw materials have now become in extremely short supply. Unless, however, a manufacturer has directly imported his own materials from the Continent, he is now dependent upon an importer upon whom the onus is placed to allocate a quotum in the ratio of his previous distribution.

The reason for the shortage of sugar is the lack of dollars, since the Government are making every possible purchase from Empire sources. The view is strongly held, however, that a way should be found for making available more sugar as a basic raw material to obviate the necessity of these premium Continental purchases which can only contribute to increased retail selling costs. In view of the fact that future imports of sugar products have been cut even more drastically, it must be assumed that the problem is being tackled along these lines, particularly in view of the publicity which the position has recently received in the national Press.

Raw Materials

Not only has the quantity of sugar available to the industry been on a very limited scale, but also it has not always been of the finest home-refined quality. Allocations of both East German and Formosan sugar have had to be accepted. This has created many more problems because of the differing physical characteristics between these sugars.

With many consignments of East German sugar there is a propensity towards frothing at high boiling temperatures, greater discoloration, and a high buffering power which could be a disadvantage in certain instances. Its use for high-boiled goods and crystal syrups, therefore, is limited.

Consignments have been received from different refineries exhibiting variable size of crystal which has rendered standardisation a difficult problem, and when such sugar has been utilised for the milling of icing sugar many difficulties have arisen, since the variable particle size necessitates continual adjustment of the mill.

Lack of Standardisation

Several consignments of Formosan sugar of which the author has had experience have exhibited a coarser grain and also greater foaming tendencies than those usually associated with the standard refined sugar. In fact, one of the problems facing manufacturers during the year has been the lack of standardisation of raw materials. This has probably tended to retard long-term research in the industry because so much extra work has been placed on the technical staffs to ensure that each raw material is utilised to the best possible advantage according to its specific properties on a short-term basis.

Contamination of Fruit

There are still very many unsatisfactory features in relation to allocated raw materials, not the least of which is the fruit problem. In this particular instance foreign matter present in the fruit has had to be removed in many cases by hand sorting on account of the varied nature of the contamination. This has placed heavy responsibility on manufacturers to ensure that no foreign matter finds its way into the finished product.

Many aids have been devised to minimise the dilemma but none of these appears to represent a complete guarantee of immunity, although taken collectively they do, in fact, ensure a fair coverage. The only real answer, however, will come with decontrol and the return of individual purchasing.

Cocoa and Cocoa Butter

One of the most interesting developments of the past year has been the return to complete freedom of the purchase of cocoa and cocoa butter as far as the sterling area is concerned. A fall in the world price has continued, despite this greater freedom, primarily because the controlling factor in the output of chocolate has been the availability of sugar, many of the imported sugar products being unsuitable for incorporation in chocolate. Furthermore, prices of cocoa and cocoa butter are still so high in comparison with sugar, that there is a greater demand for sugar confectionery than for chocolate.

Progress in the fight against Swollen Shoot disease in West Africa has continued. The original policy embarked upon by the Gold Coast Government of reverting to voluntary cutting out of trees to prevent the spreading of the disease has had to be modified in view of the very serious position. As a result, a new policy has been introduced by the Government which insists upon compulsory measures; this has been backed by an elaborate publicity campaign to convince the majority of farmers of the necessity to participate willingly in a scheme of this nature.

Allied with this, a new compensation scheme designed to show a material advantage was embarked upon as a practical measure. At the same time the Department of Agriculture are giving considerable assistance and advice in replanting to those farmers whose areas have had to be cut out.

Price Control

While the general price structure still remains, a certain amount of freedom has been granted to lines in the higher priced categories. Chocolates, previously placed in a category above 6s. per lb. and all sugar confectionery retailing above 5s. per lb., have been freed from price control, although it is still necessary to indicate the price category on all printed matter relating to their sale.

This has not resulted in increased basic prices of confectionery, but it has enabled manufacturers to offer their higher quality lines in more acceptable packaging for seasonal trade. This has proved to be a great boon, since for the first time since pre-war the specialised fancy box trade has been revived on an extensive scale allowing the industry to compete in the "gift class" against other commodities.

Can Restrictions be Lifted?

The fact that there has been so little abuse of the greater freedom introduced lends support to the view widely held in the industry that price control restrictions could now be lifted altogether without prejudice to the consumer. There would be an initial rise in certain instances, but it is argued that competition would very quickly establish stability.

While, therefore, the industry will naturally continue to advocate both freedom of price control and increased allocations of sugar, it is probable, from an economic point of view, that one is unlikely to be made available without the other.

Packaging

Packaging is a field in which manufacturers have probably had the greatest amount of scope. This aspect is considered to be of the greatest importance to an industry which has had to maintain elaborate export packaging without having the facilities to utilise similar aids to merchandising on the home market.

In the first place, the free availability of moistureproof transparent film has allowed increased protection of the goods. The main problem which the prohibition of this material had introduced was a means of countering the incidence of sugar bloom on chocolate when stored for prolonged periods of time in high humidities. Without such protection there was a tendency for moisture to be deposited on the surface of the chocolate couverture which drew the sugar out of the chocolate and formed a solution on the surface.

Subsequent evaporation of the water left a thin film of crystals known as sugar bloom on the surface and this had a deleterious effect on the presentation of an Assortment without actually being harmful. Under more extreme storage conditions, however, mildew development could also take place, which is a far more serious problem.

The reintroduction of transparent overall film wrapping has, however, given manufacturers an opportunity adequately to protect their confectionery against such eventualities.

Fancy Boxes

Reference has already been made to the introduction of fancy boxes through relaxation of price control. The use of such types of container is also permissible for goods below the specified price category, but in this instance it is still necessary for the packaging cost to be indicated clearly as a separate item from that of the basic price for the confectionery. The introduction of fancy boxes has been well received by the public, and in spite of the ration there is a very steady demand for this type of confectionery at seasonal periods.

The regulation which excluded the sale of confectionery in tinplate in sizes smaller than 5 lb. on the home market was a considerable burden to manufacturers who had to rely upon this form of packaging to ensure adequate protection on the export market. During the war, aluminium had been developed as a container for smaller sized tins, and several samples of printed containers made from this material have recently been marketed. The raw material cost is higher and the resistance to damage is less than tinplate, but it is considerably lighter and, therefore, its use produces economy in freight costs.

Coronation Packs

The first relaxation of tinplate control concerned Coronation packs, where manufacturers were permitted to place orders for tins of this nature for sale during a specified period in 1953, provided the tin was clearly intended to be utilised as a souvenir. As a result very great progress has been made and plans are well ahead for the marketing of small tins for this purpose.

Recently, however, the Tinplate Order has been completely revoked, and now manufacturers are at liberty to offer containers of any size on the home market provided the regulations concerning price control are still observed.

There is no doubt, therefore, but that the medium of the printed tin as a marketing aid will once again assume great importance, particularly in view of the progress in design and printing which has been made in recent years.

The Skillet Pack

One of the main packaging problems facing the manufacturer is that of packing chocolate assortments where, on account of the large number of hand operations involved, labour costs have increased considerably. In order to try and reduce such costs on standard lines, a small skillet pack has been developed.

The skillet usually takes the form of a piece of lined board approximately $5\frac{1}{2}$ in. × $2\frac{1}{2}$ in. which has been cut and creased along two parallel lines so that the sides can be turned up to form a protection. Two ounces of chocolates are then fed into the skillet and the whole is automatically wrapped on a machine operating at a very high speed.

Besides appreciably reducing the costs, this form of packaging also provides a smaller unit which, in view of the high prices ruling for chocolate products, undoubtedly assists the sales of such lines. This form of treatment is also particularly adaptable to the marketing of individual lines as distinct from Assortments, since in such cases large units are frequently unacceptable to the public. This represents an extremely hygienic form of packaging which is likely to compete in some measure against tablet chocolate.

Dollar Exports

In order to encourage dollar exports, the Ministry have introduced a bonus incentive scheme for all the rationed raw materials; this operates in such a way that, besides obtaining replacement of raw materials for hard currency exports, manufacturers also receive an additional quotum which increases production on the home market. This scheme has worked extremely well because it has ensured that export prices are maintained at an absolute minimum level in order that the greatest possible number of orders should be received.

Now that the Tinplate Order has been revoked for the home market, even greater progress should be made on this export side because, while packaging for this market had previously had to be considered as an entirely different entity, it may now be joined up with home marketing, thus permitting economies in the use of second cost materials.

Chocolate Research

Considerable interest has been aroused by the publication of American research carried out by workers at Lehigh University on the addition of modifiers to chocolate to combat fat bloom.

These workers studied the physical effects of many surface-active agents when present in chocolate, and by means of an accelerated ageing test, dependent upon a 24 hour cycle of storage at 90°F. and 70°F., were able to determine the efficiency with which these modifiers retarded fat bloom. The most successful agents were considered to be a compound containing equal quantities of sorbitan monostearate and polyoxyethylene sorbitan monostearate used at a concentration of 1 per cent. in finished chocolate.

Nevertheless, it was strongly emphasised, that the use of modifiers in chocolate altered completely its physical nature so that the normal methods of tempering were no longer satisfactory and a technique had to be developed whereby the degree of temper of a liquid chocolate could easily be ascertained. This was achieved by the use of modified cooling curves determined on a standard weight of chocolate when surrounded by a freezing mixture. From the shape of the curves the degree of temper could be determined.

No confirmation of this work is as yet available. The complexity of cocoa butter crystallisation and chocolate temper tends to make the problem an extremely difficult one, and at this stage greatly divergent views appear to be held as to the efficacy of the addition of modifiers of this nature.

Dry Ice for Meat Transport

BOTH in the United States and Canada, thousands of road and rail vehicles are fitted with special dry ice containers and thermostat regulators, in which not only meat, but also game and poultry can be successfully transported. A recent innovation was the satisfactory shipment of goose livers from Europe to the United States by this method.

It has been found that the concentration of carbon dioxide gas in the interior of refrigerated transport containers for meat should not exceed 10 per cent., otherwise the meat may become discoloured. The normal loss of carbon dioxide during small scale transport is 5 to 8 per cent.

In Germany, the despatch of postal packages containing dry ice cooled food products is discouraged by the authorities, although some post offices and railway stations accept them. The official attitude appears to be that workers in mail vans may be affected by the carbon dioxide evolved from the packages. Apart, however, from the small amount of dry ice contained in such packages, the normally good ventilation in the vehicles should provide ample safeguards.

Ministry of Food

LATEST STATUTORY INSTRUMENTS

The list given below is the continuation of the list of Instruments published in "Food Manufacture," October 1, 1952, page 398.

No.	*Date. 1952.*	
		PRICE FIXATION
1588	Sept. 1.	Order amending the Milk (Control and Maximum Prices) (Great Britain) Order, 1951.
1591	,, 1.	Order amending the Feedingstuffs (Prices) Order, 1952.
1603	,, 4.	Order amending the Eggs (Great Britain) Order, 1951, and the Eggs (Northern Ireland) Order, 1951. Revokes S.I. 1952, No. 1261.
1619	,, 7.	Order amending the Meat Products (No. 2) Order, 1952.
1701	,, 21.	The Sugar (Prices) Order, 1952. Revokes S.I. 1952, No. 1148.
1717	,, 28.	Order amending the Cheese Order, 1950. Revokes S.I. 1952, No. 280.
1718	,, 25.	Order amending the Butter Order, 1951. Revokes S.I. 1951, No. 2231, and 1952, No. 271.
1719	,, 25.	Order amending the Eggs (Great Britain) Order, 1951, and the Eggs (Northern Ireland) Order, 1951. Revokes S.I. 1952, No. 1603.
1716	Oct. 5.	The Bacon Order, 1952. Revokes S.I. 1951, No. 2265, and 1952, No. 279.
1773	,, 5.	Order amending the Oils and Fats Order, 1952.
1774	,, 5.	Order revoking the Biscuits (Prices) Order, 1951.
1777	,, 5.	Order revoking the Tea (Licensing and Control) Order, 1941, and the Tea (Prices) Order, 1948.
1782	,, 13.	The Seed Potatoes Order, 1952. Revokes S.I. 1952, No. 34.
1794	,, 10.	Order amending the Sugar (Prices) Order, 1952.
1818	,, 16.	Order amending the Eggs (Great Britain) Order, 1951, and the Eggs (Northern Ireland) Order, 1951. Revokes S.I. 1952, No. 1719.
1961	Nov. 16.	Order amending the Chocolate, Sugar Confectionery, and Cocoa Products Order, 1951.
2020	Dec. 1.	Order amending the Milk (Control and Maximum Prices) (Great Britain) Order, 1951.
2041	Nov. 30.	Order amending the Flour Order, 1952. Revokes S.I. 1952, No. 1528.
2083	Dec. 7.	Order amending the Feedingstuffs (Prices) Order, 1952.
2109	,, 11.	Order amending the Ware Potatoes Order, 1952.
2204	,, 29.	Order revoking the Fruit, Vegetables and Flowers (Returnable Containers) Order, 1951, and the Bananas Order, 1948.
		BREAD
1781	Oct. 12.	The Bread Order, 1952. Revokes S.I. 1951, No. 1077, and 1952, Nos. 32, 527, and 976.
		COFFEE STANDARDS
1697	Sept. 21.	The Food Standards (Coffee Mixtures) Order, 1952.
		DRIED FRUITS
1698	Sept. 21.	Order amending the Dried Fruits Order, 1951. Revokes S.I. 1952, No. 1461.
		FEEDINGSTUFFS
1652	Oct. 1.	Order amending the Feedingstuffs (Manufacture) Order, 1952.
		LICENSING
1882	Nov. 1.	Order amending the Food (Licensing of Wholesalers) Order, 1949.
		LICENSING OF RETAILERS
1756	Oct. 1.	Order revoking the Food (Licensing of Retailers) Order, 1948.
		MILK
2142	Dec. 12.	The Milk (Special Designations) (Scotland) Order, 1952.
		MINERAL OIL
1822	Oct. 19.	Order amending the Mineral Oil in Food Order, 1949.
		RATIONING
1930	Sept. 1.	The Feedingstuffs (Rationing) Order, 1952. Revokes S.I. 1949, No. 1584; S.I. 1950, Nos. 990 and 1542; 1951, Nos. 1137 and 2243.
1618	,, 7.	Order amending the Fats, Cheese, and Tea (Rationing) Order, 1952.
1653	Oct. 5.	Order amending the Bacon (Rationing) Order, 1952.
1659	Sept. 14.	Order amending the Meat (Rationing) Order, 1952. Revokes S.I. 1952, No. 1507.
1778	Oct. 5.	The Fats and Cheese (Rationing) Order, 1952. Revokes S.I. 1952, Nos. 977, 1459, and 1618.
1921	Nov. 9.	Order amending the Feedingstuffs (Rationing) Order, 1952.
2038	,, 30.	Order amending the Fats and Cheese (Rationing) Order, 1952.
		SHIPS' STORES
1776	Oct. 5.	Order amending the Ships' Stores (No. 2) Order, 1950.
		SUET
2203.	Dec. 28.	The Food Standards (Suet) Order, 1952. Revokes S.R. and O. 1944, No. 45.
		TRANSPORT
1527	Aug. 24.	Order revoking the Food Transport Order, 1941.
		WHITE FISH
747	Apr. 21.	The White Fish Authority (Registration of Wholesale Merchants) Regulations Confirmatory Order, 1952.

Food Packaging

Progress in 1952

John A. Buck

The available supplies of most food packaging materials are now at a higher level than at any time since the war. In past years, food manufacturers have often been severely handicapped by the lack of suitable packaging materials, and their output was restricted accordingly. This position, however, has now been largely remedied. Additional capacity for the manufacture of tinplate and other packaging materials has come into operation, and adequate supplies of these materials are likely to be maintained in the measurable future.

DURING the past year, considerable research into the nature and uses of established packaging materials was undertaken by various bodies both in Great Britain and abroad. Tests have been conducted on various types of container in order to establish the degree of protection which they afford against any possible damage to their contents during handling and in transit. Other tests have been designed to show the ways in which modern packaging materials and methods can affect the shelf life and other qualities of food products.

Canned Foods

The conventional type of open-top can, made from high quality tinplate and suitably lacquered internally, is still the most popular and generally the most suitable package for the canning of foodstuffs. Until quite recently the shortage of tinplate was one of the most serious encumbrances of the British canning industry. Now, however, owing largely to the operation of the new tinplate works at Trostre, South Wales, the output of tinplate in the United Kingdom has substantially improved, and tinplate allocations to canning companies were increased accordingly during the final quarter of 1952.

A double-wall cellulose film pack for prepared mixed vegetables.
Photo British Cellophane.

It was recently announced that yet another new cold-reduction plant, with an output of eight million boxes of tinplate annually, is now to be erected at Llangyfelach, near Swansea, and this will undoubtedly help to remove all fear of a tinplate famine in the future. Tin metal is in good supply, there being an annual world surplus of approximately 30,000 tons.

Deep-drawn aluminium cans are now in use and their application, particularly for canned fish, is increasing. Cans of this type are especially popular with self-service stores since they can be stacked for display much more easily than ordinary cans which have both top and bottom end-seams. Aluminium cannot yet be used for the high-speed production of conventional open-top cans, owing to its poor solderability.

In recent years considerable improvements have been made in the formulation of suitable lacquers for food cans. The older types of lacquer, based on natural resins and drying oils, have been largely superseded by lacquers based on synthetic resins of the phenolic type. Lacquers consisting entirely of phenolic resins dissolved in suitable solvents, are now widely used for the packaging of meat products, where relatively high temperatures are encountered during processing. These lacquers have excellent adhesion and an outstanding resistance to corrosion.

Oil-soluble phenolic resins are used for the lacquering of cans used for fruit products. In the U.S.A. vinyl resins are also used for fruits and fruit juices, and for beer. Since they dry by solvent evaporation and contain no drying oils or thermosetting (*e.g.* phenolic) resins, they are stoved at lower temperatures than is normally the case with other lacquers.

Interest is growing in the use of process-resistant inks for the decoration of food cans. These inks produce an imprint which is capable of withstanding the heat and pressure of normal canning operations, and are therefore being used for printing direct on to can bodies, thus eliminating the need for paper labels.

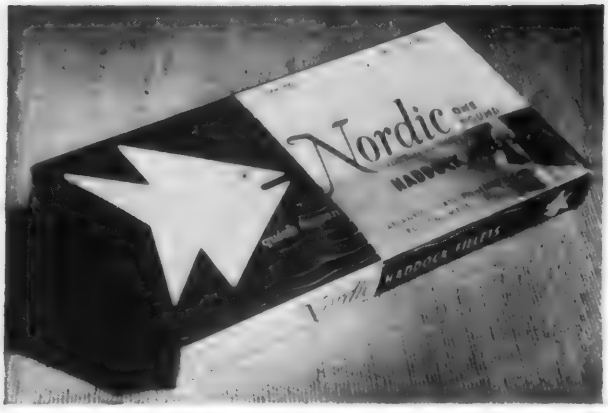
Transparent Films

Some of the most revolutionary developments in food packaging in recent years have been brought about by the use of transparent films.

In all, more than 14 different types of film are now known to be suitable for food packaging, but relatively few of these materials are commercially available at present in this country.

The main types of film suitable for food packaging which are now in production are (1) regenerated cellulose (viscose), (2) cellulose acetate, (3) polythene, and (4) rubber hydrochloride. Other

A Hermetet carton, with integral film liner, produced by the Paper Goods Manufacturing Co. for Lyons.



Left: **Aluminium foil, backed with waxed paper, is used for quick frozen haddock fillets packed by Atlantic Coast Fisheries.**
Photo Council of Industrial Design.

Above: **Printed aluminium foil envelopes, with white kraft lining, for Nestlé's dehydrated soups.**

films, such as polystyrene and ethyl cellulose, are also available, but are still far too expensive for general use in packaging. Films based on vinyl resins, although available, are not generally suitable for food products. However, new films based on vinyl resins and suitable for food packaging, are likely to become available fairly soon.

Laminated Films

The practice of laminating transparent films with metallic foil and with paper is already well established. A new development, however, consists of laminating together two entirely dissimilar transparent films. In this way, the strength, moisture-resistance, and gas-diffusion resistance of the pack is increased, without impairing its transparency. Moreover, decorative designs and lettering can be reverse printed on the outer film, thus enhancing the appearance of the print, while the inner film prevents the printing ink from coming into contact with the contents of the pack.

Combinations of Film

At the present time, the following combinations of film are possible:

1. Rubber hydrochloride with viscose film.
2. Rubber hydrochloride with polythene.
3. Rubber hydrochloride with cellulose acetate.
4. Polythene with viscose film.
5. Polythene with cellulose acetate.
6. Cellulose acetate with viscose film.

In the future, this list may be extended by the use of such films as saran, ethyl cellulose, polystyrene, and cellulose acetate-butyrate, which are at present either unobtainable or expensive and in limited supply.[1]

Laminates of this kind have been of particular value in the development of a new vacuum packaging technique for foodstuffs. It has long been known that the keeping qualities of food products can be greatly enhanced by storing them *in vacuo*, or in an inert gas such as nitrogen or carbon dioxide. In order to package foodstuffs in this way it has hitherto been necessary to utilise airtight metal or glass containers. Ordinary transparent films are unsuitable when used alone since even if heat-sealed, they permit oxygen from the atmosphere to permeate through the walls of the pack. By the use of laminated films, the penetration of air is prevented.

Vacuum Process

The new vacuum process is in use for a variety of products, including cheese, nuts, dates, yeast, dried fruit, and coffee. Cut cheese has a storage life of six months at room temperatures when packed by this process, which is said to represent a complete break from the vacuum chamber techniques currently employed in the U.S.A. The laminate used for this type of packaging is generally a moisture-proof grade of viscose film combined with a film of rubber hydrochloride, although other films can be used according to the specific requirements of the pack. The process involves the use of a specially designed semi-automatic machine which rapidly perforates the package and draws a vacuum up to 29½ in., the perforation being immediately sealed hermetically.

Packaging of Dried Vegetables

A laminated material consisting of two layers of regenerated cellulose film is now in use in the form of printed bags for the packaging of prepared mixed vegetables. The inner wall of the bag consists of moistureproof Cellophane (M.S.T. 300) and the outer wall of non-moistureproof film (P.T. 300). The outer wall is reverse printed in royal blue and cream, except for an unprinted window through which the contents can be seen. The double wall gives added strength to the package, while the inner film protects the contents against moisture penetration. The vegetables included in the pack are: potato, cabbage, swede, onion, and carrot. They are recommended for stews, hot-pots, and soups, and need no preparation and only the simplest cooking arrangements.

Transparent films, particularly polythene and rubber hydrochloride, which have an exceptional resistance to moisture, are now being increasingly used for the packaging of liquid and semi-liquid products. In America, orange juice is packed in a heat-sealed polythene and viscose laminated bag, the outer, viscose, film being reverse printed. In this country, a heat-sealed polythene bag, enclosed in a printed paperboard outer, is used for quick frozen fruit salad. Another interesting American package consists of a can of cocktail wieners in which is enclosed a rubber hydrochloride pouch containing a special sauce.

An important transparent wrapping material which may become available in this country fairly

soon, is polyvinylidene chloride. This film, known generally as saran, is widely used in the U.S.A. It is virtually impermeable to air and moisture, and has been successfully employed for vacuum packaging. Saran has been used in the U.S.A. for the packaging of cheese, since its lack of breathing qualities and impermeability to oxygen prevents loss of flavour.

Properties of Saran

Saran is also heat-shrinkable, a fact which has been responsible for the development of a new method of packaging poultry. The birds, after being killed, inspected, and cleaned, are placed in an individual saran bag which is made to shrink slightly by immersion in hot water. All air is removed from the pack by vacuum pump, thus causing the film to shrink in strict conformity with the carcass to produce a smooth, tight-fitting wrap. The function of the bag is to preserve flavour and prevent hydration, while at the same time providing an attractive and hygienic wrapping.

A lack of manufacturing capacity is at present preventing the production of saran film in this country. It is, however, now being produced in the form of monofilaments for synthetic textiles, and its production in film form for packaging purposes should not be very long delayed.

Moulded Plastics

The use of containers moulded from plastics is not very widespread in the food manufacturing industries, and there would seem to be some scope for further development in this field. Rigid moulded polythene bottles are already used to some extent for the storage of flavours and essences, and also for the packaging of a vitamin additive used in margarine.

Although bottles of this type cost about two-and-a-half times as much as similar bottles in glass, they have the advantage of being virtually unbreakable and are less than half the weight of glass containers. Thus, transport, packaging, and breakage costs can be considerably reduced.

Table Spice Containers

Moulded jars made from polystyrene are used in America for a product incorporating mixed table spices and intended as an "all-purpose" seasoning. The jars are fitted with an adaptable "sift or pour" closure. Boxes moulded from polystyrene or fabricated from polystyrene sheet are also in use for the packaging of processed cheese. During the past year, polystyrene has come into plentiful supply in Britain. It is normally glass-clear, but can be pigmented to any desired shade or colour, either translucent, transparent, or opaque. Polystyrene is odourless, tasteless, non-toxic, and resistant to moisture and grease. It should therefore be highly suitable for many food products.

Biscuit and Confectionery Boxes

Urea formaldehyde mouldings are also suitable for containing foodstuffs. As urea is a thermosetting material, and cannot be softened by heat, it is not therefore suitable for the manufacture of bottles by the normal extrusion-blowing technique, which depends on the plasticity and extensibility of thermoplastic materials such as polythene and polystyrene when exposed to moderately high temperatures. Urea moulding materials can, however, be used for the production of round or rectangular boxes, gift caskets, etc., particularly for biscuits or confectionery products. Urea formaldehyde is already well established for the making of bottle caps and closures of all kinds.

Collapsible Tubes

Flexible collapsible tubes moulded from polythene by the extrusion-blowing process have lately come into production in Great Britain. Tubes of this kind are likely to prove of value for the packaging of sandwich spreads, prepared icing sugar, and similar products. One firm in America is using polythene tubes for packaging a range of eight differently flavoured cheese spreads. Special caps are provided for dispensing the product when it is desired to make decorative designs and lettering on savoury food products. Flexible moulded polythene containers are also used in America for tomato ketchup.

Paper and Board

A falling off in the demand for paper and paperboard was experienced during the first half of 1952, owing largely to overbuying in 1951. Although, in recent months, the demand has revived somewhat, paper and board materials are still plentiful and are likely to remain for some time to come.

Improvements and special-purpose modifications in the design of both folding and set-up boxes and cartons are constantly being made, and many patents for improved designs have been granted during 1952 both in this country and abroad.

Sift-proof Lined Carton

One type of folding carton now available in this country incorporates a sift-proof tubular liner, thus eliminating the necessity for a separate inner bag, and facilitating speedier filling and sealing. The liner is automatically heat-sealed before the final closure and gluing of the carton ends. A special closing and sealing machine is available for use with this pack, enabling an output of 26 to 32 cartons per minute to be achieved. If necessary, the cartons may be packed by hand.

The liner may be made from almost any heat-sealable wrapping material—sulphite, wax-coated or laminated papers, thermoplastic film, or thermoplastic-coated metallic foil. A carton of this type is used for the packaging of potato puffles.

Composite Containers

Consisting of cardboard bodies with metal ends, composite containers are being used on an increasing scale. If necessary linings of coated paper, transparent film, or other flexible materials may be incorporated to afford additional protection from moisture penetration. Such containers are more robust than ordinary cartons, and are suitable for a wide range of products, including food powders and quick frozen foods.

Highly decorated containers produced by the Metal Box Co.

Multiwall Bags and Sacks

Papers coated with moistureproof and greaseproof thermoplastics such as polythene and certain vinyl resins are now well established in this country. A newer development, however, consists of a layer of polythene sandwiched between two layers of kraft paper or board. This product is now being made in continuous lengths and in widths from 2½ inches to 48 inches. It will, in future, also be available in widths up to 72 inches. Probably the greatest potential use for this material is in the production of moistureproof, multiwall bags or sacks of exceptional strength.

Labelling Papers

Heat-seal papers for labelling purposes are finding many applications in cases where water-soluble adhesives are unsuitable or undesirable. These papers are coated with a thermoplastic resin, and may be affixed by hand with a heat-sealing iron or by means of a specially designed machine. It is, in some cases, possible to adapt ordinary adhesive labellers to heat-seal labelling and *vice versa*. Heat-seal labels adhere to a wide range of surfaces, but are not suitable for use with polythene.

Current Research

Research to establish an evaluation of the strength of certain papers used for bag making was recently undertaken by the Printing, Packaging, and Allied Trades Research Association. Three types of bag were examined, namely: block bottom, satchel, and self-opening satchel. Tests were carried out on three sizes of each of the three different types of bag.

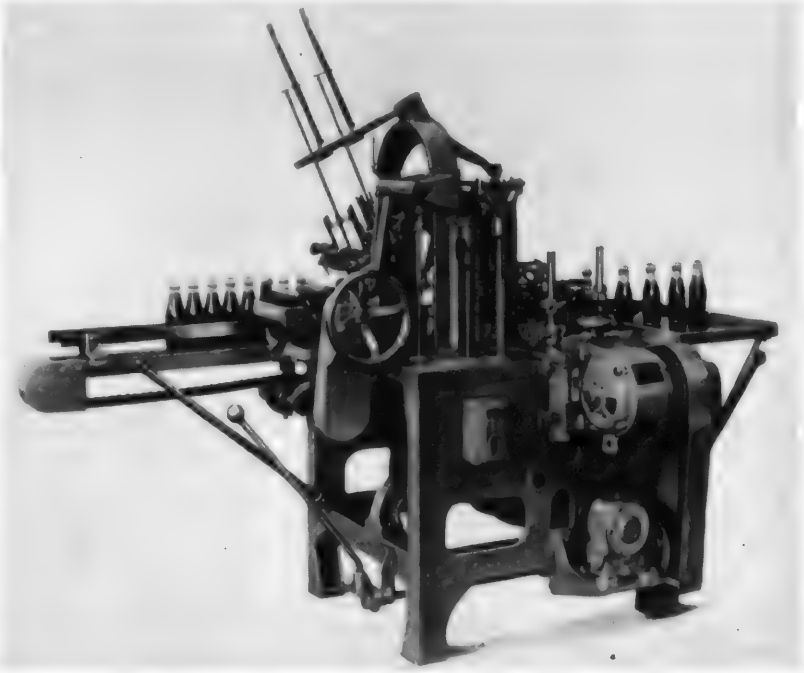
Four fillings were used in increasing order of particle size: cornflower, semolina, oats, and dried peas. A drop test showed that the performance of kraft bags was almost twice as good as corresponding bags of M.G. Sulphite. For both types of paper, the block bottom bags proved better than the other two types.[2]

Another item of research conducted by PATRA was carried out at the request of a member firm. Tests—including drop tests and inclined plane impact tests—were undertaken on fibreboard containers intended for the conveyance of cans of processed food. The containers were constructed from fine flute 40 lb. board, the filled weight being 30 lb. Each case contained 24 cans.

The main conclusion drawn from the tests was that although the cases were just capable of carrying their contents, no safety margin had been allowed and damage was therefore likely to result if the cases were not carefully handled.[3] Research of this nature is of considerable value in ensuring that actual or potential bulk packaging methods afford adequate protection at an economic cost.

Quick Frozen Foods

The expanding production of quick frozen foods both in this country and in the U.S.A. has greatly stimulated research into the packaging of these products. In one series of investigations, tinned metal containers were found to be the most suitable package for



A Purdy labelling machine.

cut-up frozen meats. Containers of this type enable meats to be kept in good condition at least seven or eight times as long as similar meats exposed, or partially protected by single sealed wraps.

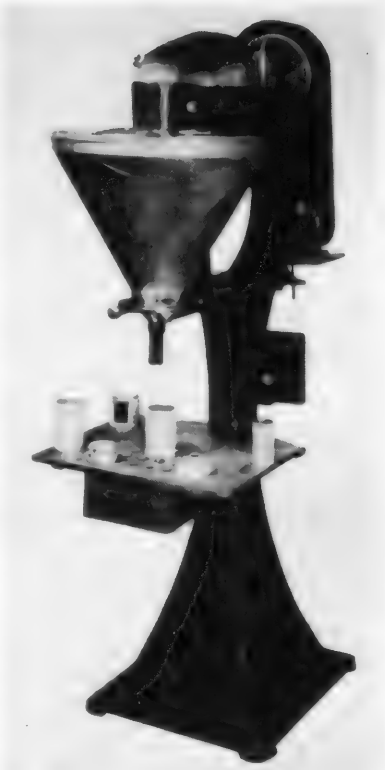
One of the disadvantages of metal cans when used for the packaging of quick frozen foods, is that consumers may mistake them for ordinary canned goods, and consequently fail to take proper precautions regarding home-freezer storage. For this reason, waxed paperboard and fibreboard cartons or composite containers are more generally used. These containers are frequently overwrapped with transparent films in order to prohibit moisture loss, and are sometimes lined with similar films in order to prevent the leakage of products packed in syrups.

Experiments on precooked frozen meat stews packed in plastic film bags showed that the stews began to deteriorate in quality after six to nine months' storage at 0°F.[4] Other investigations were made into the storage of frozen whalemeat packed in bags of greaseproof paper, saran film, polythene film, or aluminium foil laminated to kraft paper. It was found that the saran film, when shrunk to make close contact with the meat, was by far the most effective material in preserving the meat against hydration and oxidation. Even so, after six months' storage, rancidity was found to have set in to a depth of 2 mm. from the surface of the meat.[5]

Packaging Machinery

Developments in packaging machinery are constantly being made, and equipment is now available for the rapid handling and packaging of virtually all types of food product and containers.

Some of the most modern machines employ vacuum-induction filling methods. Equipment of this type is particularly valuable in ensuring that the solid and liquid content of certain products are maintained in their correct proportions. A new machine of this kind is now available for the handling of many difficult products, including sweet pickle, yeast extract, fine chopped chutney, lemon curd, and chocolate spread.[6]



The Alite loose filling machine is readily adaptable for various sizes and types of container and also for handling pastes.

Another vacuum-filling machine for use with powdered foods gives an output of 1,800 fills per hour, or 3,600 fills if two filling heads are incorporated.[7]

Design of Packaging Machinery

In recent years there has been a noticeable tendency for machinery of all kinds to be of a more compact design in order to enable manufacturers to make the best possible use of expensive floor space. That this need not interfere with operational efficiency is exemplified by a new machine for packaging ice cream which, although only occupying an area measuring 17 inches × 35 inches, is able to fill and cap up to 65 ice cream cups per minute.[8]

The application of labels to bottles and jars of up to four inches diameter can now be achieved at speeds of from 9,000 to 15,000 per hour on a German machine now being marketed in this country. The label may be of any size up to 6¾ inches × 7¼ inches.[9]

Two machines of particular interest to manufacturers of confectionery have been recently developed. One is designed to wrap small products such as chocolate neopolitans at speeds of from 140 to 160 per minute. The other is a re-designed continental machine for the foil-wrapping of chocolates at speeds of 80 to 100 per minute.[10]

Heat Sealing

Several different machines for the heat-sealing of transparent films at high speeds are now in production. For users whose output is not large enough to justify fully automatic machinery, a new wrapping and sealing device is now available. It consists of a rectangular working panel, approximately 2¼ feet square and 3⅛ inches deep, incorporating a heating bar flush with the surface, for making longitudinal seams. End seams are achieved by the use of a separate sealing device positioned in one corner of the panel.[11]

Most of the heat-sealing equipment now available employs either high frequency electrothermics or the use of directly heated metal jaws in order to achieve a seal. In one machine which has recently entered the market, however, an entirely new principle is used. In this case a jet of hot air is employed to heat-seal polythene over-wraps for small tea packets. The machine can wrap and seal up to 30 packets per minute.[12]

Package Design

Hand in hand with recent technological advances has gone an increasing awareness of the importance of attractive package design. Improvements in printing techniques and the wider use of transparent films have enabled packages to be developed which are not only functionally sound, but which are also immensely effective from the standpoint of sales appeal.

With the current expansion of self-service trading, this aspect of design assumes an ever increasing importance. At the time of writing it is estimated that more than 1,500 self-service stores are already in operation in this country, and the movement is growing

(*Continued on page* 69)

The British Packaging Industry Shows its Wares

A number of important new developments in machinery, materials, and techniques made their appearance at the Third National Packaging Exhibition which was held at Olympia from January 20 to 30. This review of some of the exhibits gives an idea of the progress that has been made since the 1951 Exhibition.

ADHESIVES

RECOGNISING the diversity of materials, machines, and methods now being used or developed for packaging and the special needs for export and defence requirements, National Adhesives provided a consultation centre where experienced technical staff were present to discuss individual problems. Full details were available of new and improved adhesives of vegetable and synthetic origin, including grades for the canning and frozen food industries, film converters, sealing adhesives for waxed and weatherproof containers, and the many other operations which comprise modern packaging.

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Adhesives of all descriptions for all packaging purposes were displayed by The Arabol Manufacturing Co., who also included among their exhibits speciality adhesives for use on tin, waxed and treated papers, foils, moistureproof film, and plastic materials. Another section of the stand was devoted to cold glues, gums, and pastes, dextrines, animal glues, synthetic resin glues and emulsions, heat sealing adhesives, liquid rubber latex and latex compounds, and waterproof glues. Self-adhesive cellulose, acetate, P.V.C., and cloth and waterproof tapes for tropical packaging, decorative packaging, and airtight sealing were featured by the company, who also exhibited British-made American adhesives of the latest development for modern packing and labelling machines, particularly for American equipment used in Britain.

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The range of adhesives displayed by the Feculose Co., included liquid gums and glues, cold water gum and glue powders, hot and cold water paste powders and dextrines, in addition to speciality adhesives for use where properties not inherent in vegetable adhesives are required. These adhesives meet practically every packing need, including those for water-resistant packs.

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Adhesives for either machine or hand operations were featured by Gloy and Empire Adhesives, whose technical staff at the Exhibition were present to discuss any adhesive problems confronting the packaging industry.

Collapsible tubes for mustard exhibited by John Dale.

CONTAINERS AND LABELS

Multiwall sacks, built up from plies of tough kraft paper and used for the bulk packaging of primary commodities ranging from sugar to cement were shown by The Bowater Paper Corporation alongside the simple paper or film bags seen in every shop. Fibre drums, large and small, were also featured, together with corrugated fibreboard cases of all shapes and sizes used for the protection of goods in transit. Other items of interest to the packaging industy were waxed paper, supplied plain or printed with up to four colours, single-faced corrugated wrapping paper in rolls or cut pieces, glazed and unglazed kraft, wet-strength kraft, and straw paper.

▪

Among the lines featured by Brown, Bibby and Gregory were the Lithesk labels for the canning and bottling industries, a wide range of cartons, in particular window cartons, samples of the Metalam unit packs for the packaging of coffee concentrates and for sampling campaigns involving hygroscopic foodstuffs, laminated foil soup packets, a selection of paper and film bags and wrappings, printed in up to four colours in anilines or gravure, bottle carriers, and window bags.

▪

Collapsible tubes for various kinds of mustard were exhibited by John Dale. These tubes are ideal containers for picnic foods, being light, compact, hygienic, and virtually unbreakable.

▪

A wide range of medium and small folding cartons, display outers, cut-outs, and cake boxes, all printed by the letterpress and offset litho processes was shown by Alfred Eva and Son. An associate company also displayed cotton bags of various sizes.

A recent development in the packaging industry is the production of water-resistant corrugated board. An example of this was to be found at the stand of the Feculose Co. Made by the Stein Hall process, this board can stand immersion for more than 24 hours without any separating.

▪

Special prominence was given to machine-made and hand-made rigid boxes by Hunt Partners who have considerably increased their capacity for this type of container. Folding cartons and display outers were also exhibited, together with samples of the Velvetone cartons which are particularly suitable where machine packing is concerned. Another comparatively recent development is the Autox ampoule pack for the packing of pharmaceuticals.

▪

The Plastics Division of I.C.I. displayed a wide selection of articles packed in Alkathene film, samples of Alkathene flat and tubular film, blown bottles and injection moulded containers of this film, and also Alkathene coated paper and adhesive tape. The Paper Goods Manufacturing Co. showed Hermetet cartons and the Hermic packer, a fully automatic filling and packing machine designed especially for these cartons.

▪

Twenty-five years' experience in the manufacture of paper sacks was the theme of the Medway Paper Sacks stand. A most comprehensive range of multiwall sacks was on show including pasted and stitched sacks, the cushion-stitch Sealdsac, and the Crepesac first introduced by the company in 1933. Sack filling and sealing equipment was also shown.

▪

A special feature at the stand of the Pearlite Box Co. was their Coronation pack bearing a photograph of Her Majesty the Queen and His Royal Highness The Duke of Edinburgh which can be made into a permanent photographic souvenir. This box is so designed that if customers are left with supplies after the prescribed period of sale, the Coronation design portion can be removed, leaving an efficient pack for ordinary use. Some newly constructed types of pack, with locking devices, were also exhibited. A new impregnating mix has been evolved by the company which gives the container a higher resistance to moisture-vapour and makes it more pliable and resistant to oils, greases, and fats.

A prominent feature of the Thompson and Norris display was the new waterproof corrugated fibreboard which is particularly suitable for the packaging of any product intended for export and requiring protection from the elements. Also exhibited was a varied selection of corrugated containers, including trays, one-piece cases, two-piece boxes, two-lid boxes, and double and triple cartons, some to railway and others to export specifications. Specimens of single faced corrugated material, wax coated, wax impregnated, glassine, and greaseproof corrugated materials were also on view. An unusual feature was the display of containers in coloured corrugated board with individual overall designs and of boxes covered with fancy paper designed for the festive seasons.

A container made from the new Thompson and Norris waterproof corrugated fibreboard material undergoes an unusual test.

From unit to bulk packaging was the feature of the Venesta stand at which was displayed the complete range of products made by the company's packaging division — aluminium foil, collapsible tubes, plywood barrels, and plywood boxes and cases. The display of aluminium foil showed the variety of forms and finishes of this material which make it such a versatile medium for modern packaging and bottle capping. New development in inks, enamel, and applications of internal lacquers render the use of collapsible tubes ideal for an increasing number of products. The company's display of plywood barrels showed their advantages as space-saving containers, and that of plywood boxes and cases for export packing and as containers (both returnable and non-returnable) for the home trade showed the many uses to which these types of container may be put.

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Letterpress printed and lithograph printed seals, labels, tallies, small cartons, displays, advertising inserts, and showcards formed part of the display of the Walsall Lithographic Co. In addition, Metcraft real metal labels, plaques, and showcards and filigree metal cut-outs for exclusive packs and displays were exhibited. A particular feature of this stand was the special Coronation range of seals, labels, displays of crowns and plaques, and colour prints.

CONVEYING EQUIPMENT

A conveyor system based on a cable of 0·705 in. diameter was exhibited by Teleflex Products. Particularly suitable for long runs with multi-drives, this conveyor system has the advantage of great flexibility. The standardisation of components and sections makes them capable of being formed into conveyor systems to suit any particular work or production layouts. Another exhibit was the Teleflex system of mechanical remote control for transmitting rotary or straight line motion to remotely positioned units.

GUMMING AND LABELLING EQUIPMENT

Included in the range of fully automatic labellers shown by the Purdy Machinery Co. was the Straightaway which labels simultaneously front and back; the Turret for round, oval, square, and other polygonal sided containers; and the New Way for the high speed all-round labelling of cylindrical containers. Two types of automatic hand-fed labellers were exhibited; these were the Universal which places up to three labels on round, oval, flat, polygonal, and other shaped objects, and the Junior for round or rounded containers. A model of the Elgin paint filling machine for the complete process of filling, lid feeding, and pressing on double friction cans was also shown.

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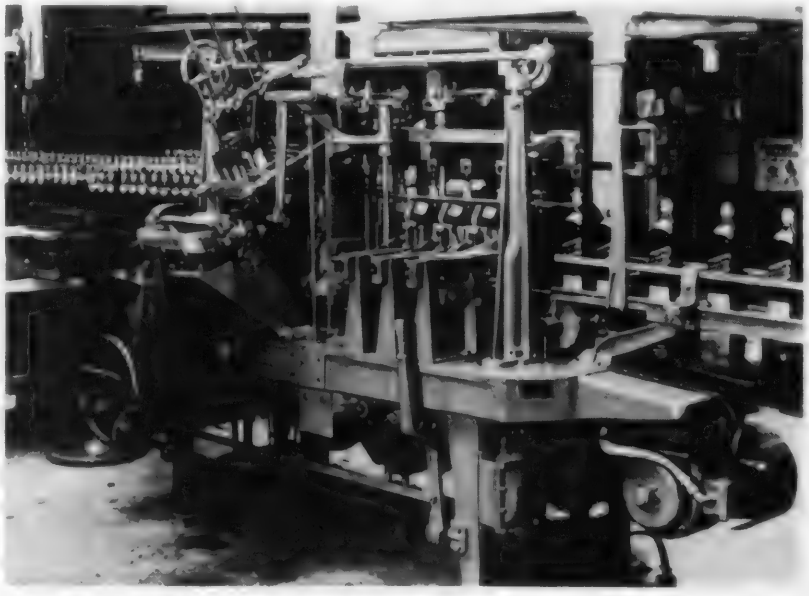
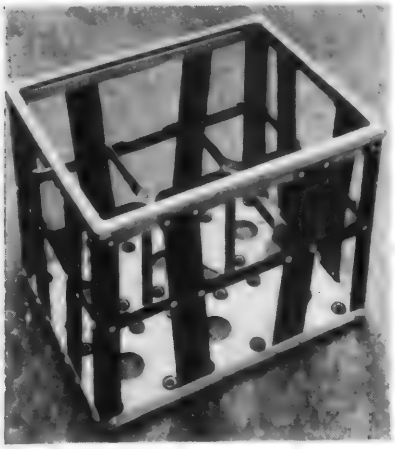
Among the range of equipment shown by D. Trapow and Co., was the Newman automatic label gummer which was making its first appearance. This machine, which is equipped with a self-feeding label device, is motorised and a slight finger touch on a lever delivers one totally gummed label ready for affixing to the object. Labelling machines shown by the company included the semi-automatic strip gumming model for the application of labels of any shape to round, flat, or other shaped containers; the semi-automatic all over gumming model, for the application of labels to flat surfaces such as caps, cartons, and powder boxes; and the fully automatic model for labelling vials, ampoules, and other cylindrical objects. A further exhibit was the coding device which can be fitted to the strip gumming model and to the fully automatic model; it prints a code or date on the back of each label during the labelling operations. The motorised wadding machine—another of the company's recent productions—was also on show for the first time. This portable machine presses wads of material automatically into metal or plastic bottle caps at a speed of from 60 to 100 per minute.

METAL CONTAINERS AND CLOSURES

Representative types of the Magcrate and jar crates, including a new model, were displayed by Essex Aero. Manufactured with magnesium slats riveted to pressed aluminium base and nesting tray, the crates are light



A Purdy automatic "Straightaway" labeller at Johnnie Walkers.



A new type of sweet jar crate developed by Essex Aero.

and strong, the largest weighing under 6 lb. Among the transportable containers on show were samples of light and ultra light metals applied to fruit trays, wheeled and non-wheeled bins, pilferproof transit cases, electrical equipment trays, and refrigerator trays for internal factory use. Also exhibited was a fruit storage drum weighing 53 lb. empty which has been designed to hold 400 lb. net weight of fruit. A new type of bung seals the large pouring aperture and is secured by a special fitting from the outside, thus eliminating the use of the conventional screw thread bung.

*

A selection of cans, drums, and kegs for the food, paint, and chemical industries, including cans for hams, chickens, meats, preserved provisions, essential oils, essences, and ether was shown by John Feaver who also showed, for the first time, a new range of square slip cover tins available in dimensions ranging from 3 in. to 10 in. in plain or lithographed tinplate. Both the cover and body of these tins are curled for safety.

*

Designed to save space when empty and folded, to interstack safely when in use, and to save time from the folded to the assembled stage, the Phoenix folding container, manufactured from light aluminium alloy, was exhibited by The Heston Aircraft Co. Rustproof and corrosion resisting, the container is fitted with strong and durable piano-type hinges which give smooth and accurate movements. Its corners are reinforced, the lower ones forming a firm base for interstacking. The fact that seven folded empties can be stacked in the space of one assembled crate shows the extent of space saving during storage and transport when empty.

The comprehensive packaging service offered by The Metal Box Co. was featured by the company whose most prominent exhibit was a section of can runway equipment. Some of the latest can and jar closing machines were exhibited, including the new 60 per minute closing machine and the high speed vapour sealing machine, both for Garda caps. Also on view was a new seamer especially designed for closing cans at high speed without spilling. In addition, research, product design, and art services were all covered by separate displays incorporated in the general layout of the stand.

*

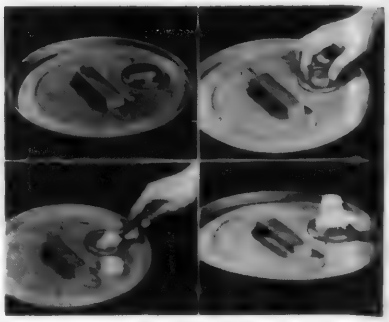
Packers of foodstuffs found a wide range of cans on Read's stand all suitable for liquids, powders, and solids. Where special internal treatment is necessary, the company have an extensive range of lacquers and coatings. For bulk packing, steel, tinplate, aluminium, and other types of drums are available in capacities ranging from 14 lb. to 4 cwt. or from 1 to 50 gallons.

*

FlexSpout, ViseGrip, and RingSeal closures were exhibited by ViseGrip Products. Designed for metal containers from 1 to 50 gallon capacity, and for both light and viscous liquids, this range of airtight, tamper-proof closures covers most requirements. The new FlexSpout closure facilitates drum production as well as simplifying drum filling and sealing operations. The retractable polythene pourer spout is a feature which appeals to the ultimate user.

METAL DETECTION

The newest kinds of industrial electronic metal detectors were exhibited by Cinema-Television. One of these



The retractable polythene pourer spout featured by ViseGrip Products.

will detect the minutest fragments of any metal—ferrous or non-ferrous—and was shown operating on a conveyor unit in conjunction with the Cintel automatic rejection unit. Biscuits passed along the conveyor line and any found to contain metal were automatically ejected.

PACKAGING MACHINERY

A new machine for the packaging of flour, sugar, and similar products in multiwall paper or jute sacks was shown by Brecknell, Munro and Rogers. Two operators only are required for this machine, one to hang empty sacks on the filler spouts and one to guide the filled and settled sacks through the Medway Sac-Sealer which is fitted as standard equipment. The machine has a speed of up to six sacks per minute and is supplied with a Richard Simon weigher. The fitting of a second weigher increases the machine's output. Sacks are handled mechanically throughout all stages from filling to sealing and all necessary safety features are incorporated in the machine. Among the other exhibits were

A new inland transit box manufactured by Heston Aircraft.

The Peters capping machine.

the Sealtite packaging machine for powdered and granular substances, and automatic butter and margarine moulding and wrapping machines in a full range of British and metric weights.

*

Examples, models, and photographs of export packing of machinery, machine tools, aircraft, vehicles, agricultural and road machinery, and a wide range of other items were displayed by Evan Cook's Packers.

*

A completely new range of packaging machinery, not previously exhibited, was shown by G. D. Peters and Co. This included a collapsible tube cap lining machine with coiled strip feed; a semi-liquid filling machine; a lidding machine; a screw stoppering machine; a Convey-O-Mat carton set-up machine; a semi-automatic corking machine; a semi-automatic thermoplastic labelling machine; and three types of automatic unscrambling hoppers. The other items on show which were previously exhibited at the 1951 Exhibition have been fitted with many new and improved devices; among these were the automatic rotary cap lining machine with coiled strip feed; an automatic prescrewed capping machine, automatic horizontal labelling machine, and a 36 in. automatic unscrambling hopper.

PACKAGING MATERIALS

Bags and wrappers made from a wide variety of materials, such as cellulose film, Pliofilm, vegetable parchment, foil, and film and glassine laminations, formed part of the comprehensive display arranged by John Dickinson and Co. On the envelope side of the display were pocket envelopes for all packaging purposes, printed by letterpress, lithography, or photogravure. The Karrier bag section featured En Suite packaging and also the new Market Karrier with the patented handle. Special Karriers of kraft/greaseproof laminated for fish, meat, and other food products, and kraft packaging outers for packing multiple units of flour, cocoa, and a wide range of other articles were also displayed. The company were also exhibiting a new type of unwoven cloth—Combine—in the packing bag section.

*

Outstanding in recent packaging achievements is the development of the vacuum packaging technique by the Goodyear Tyre and Rubber Co.

Pliofilm, laminated with other packaging materials, ensures moisture and odour retention and provides the vital heat sealing medium which makes vacuum packaging possible. It is transparent and proof against air moisture, water, and vapour.

Examples of Pliofilm packaging were exhibited by the company together with the new Strand stretch wrap machine and the Bidex stretch wrap machine which demonstrated the extensibility of Pliofilm and showed how products of all shapes and sizes can be safely and attractively wrapped in this material.

The company displayed a wide variety of package exhibits for the home and export markets together with the new household rolls of Pliofilm which will shortly be available throughout the country.

The role of protective wrapping in the field of modern packaging was the theme of the BX Plastics exhibit. One illustration of this was provided by the exhibit of Velbex P.V.C. calendered sheet which is supplied in continuous rolls 48 in. wide and in a range of thicknesses; this material is highly resistant to water, chemicals, and oils. Another is polythene sheet and Layflat tubing, the former in 36 in. width and thickness from 1½/1,000 in. upwards, the latter in widths of 1 in. to 27 in., and thickness from 1½/1,000 in. up to 5/1,000 in. Resistant to water, vapour and chemicals, polythene is particularly valuable for its use at low temperatures. Transparent materials for box and envelope making, and solutions for sealing, coating, and finishing, together with a selection of finished packs completed this comprehensive display.

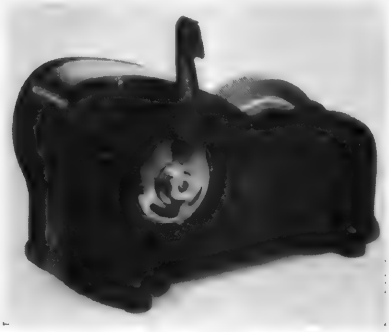
*

A notable feature of packaging and presentation over the past few years has been the increasing use made of transparent acetate film. An impression of the ways in which such film can be used for product presentation was shown by British Celanese. Clarifoil acetate film can be printed in multi-colours, laminated to paper or board for a waterproof high gloss finish on showcards, etc., and to metal foil for unit packaging tablets and powders. It can also be used for window cartons which enable the product to be seen yet keep it protected from dust, dirt, and handling.

PACKAGING RESEARCH

The main display of PATRA was a working model showing a package

The J.W. carton sealer for gluing and sealing millboard cartons.



The cellulose tape dispenser designed by Industrial Tapes.

on its journey from factory, *via* road and rail, to retailers' warehouse. At each stage of its journey, the shock and hazards to which it is subjected were indicated by lights and working models of the Association's methods of simulating and assessing such shocks and vibrations. Also displayed was the Oscilloscope which is used in an accelerometer technique for measuring the shocks transmitted to an article in its container. The demonstration showed the effect of hard and soft packing on transmitted shock.

SEALING MACHINES AND TAPES

Designed for gluing and sealing one or both ends of a wide range of millboard cartons, the automatic carton sealing machine displayed by C. S. du Mont enables a quick change-over to be made from one carton size to another. This makes it particularly suitable for packing speeds found on most filling lines in medium sized factories and it can even be used profitably on short runs by wholesale grocers and others.

A waste paper baling press.

Also exhibited was a display of the products and types of pack for which the machine is being used today; these include a wide range of powdered foods and cereals packed in an inner liner, and many other products, such as dog biscuits, rice, and similar granular products, for which a liner is unnecessary.

*

The many applications of Sellotape in modern industry and commerce were demonstrated at the stand of Gordon and Gotch who also held a film show twice daily covering a wide range of subjects of interest to the packaging industry.

*

Tapes for all packaging purposes, including a new Coronation series which provides a choice of self-adhesive tying and banding tapes and ribbons in red, white, and blue, as well as some stock designs for embellishing packs with topical appeal, were shown by John Gosheron and Co.

*

The multipurpose nature of Speedfix self-adhesive tapes was demonstrated by the display arranged by Industrial Tapes. Other exhibits included self-adhesive paper labels (available in 16 different shapes and sizes), a newly designed dispenser for cellulose tapes, which gives any predetermined length by the depression of a lever, together with a wide range of paper and cloth tapes with various other hand and bench dispensers.

*

Several new pieces of equipment were featured by Samuel Jones and Co. One was the prototype of the new motor driven labelling machine designed for use with pregummed labels and the new Hotplate thermostatically controlled machine. Three new sealing machines were shown: the Lightning automatic sealing machine, the two length Tape Shooter, and the prototype of an electrically driven two length sealing machine. In addition there was a comprehensive display of all the company's products in the field of packaging.

*

A full range of Scotch Boy pressure sensitive adhesive tapes for all packaging purposes, including a double coated tape which was of particular interest to carton manufacturers, and manual box sealers, single and multiple label dispensers and laminators were the chief exhibits on the stand of the Minnesota Mining and Manufacturing Co.

STACKERS AND TRUCKS

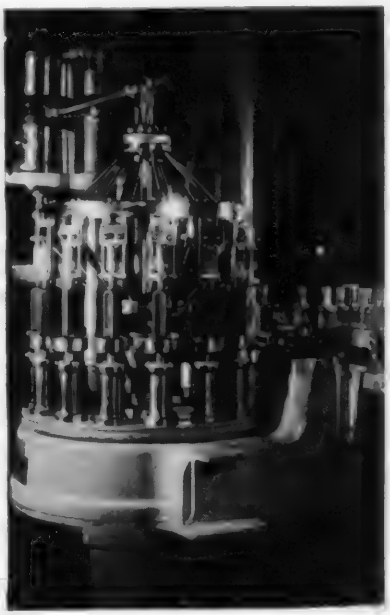
A wide selection from their range of products, including trucks, stackers, ladders, and steps, was

The Croxted manual cross tyer.

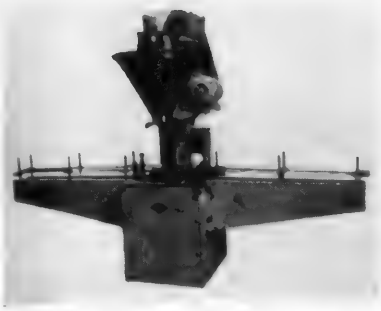
displayed by H. C. Slingsby. Of particular interest were the drum trucks and stillages, the latter being a most inexpensive method of raising and storing drums and barrels for instant drawing-off of contents. Stackers, both hand and electric, were also prominent on this stand as were several new types of tubular sack truck, with and without folding foot irons.

*

A waste paper baling press and an exhibition trolley were the main exhibits of the Tyne Truck and Trolley Co.



The Albro 16 head fully automatic rotary vacuum operated filler for sauces, salad cream, etc.



The Alite fully automatic loose filling machine.

TYING MACHINES

Extra speed, security, and economy in the packing and strapping of all types of packs are claimed for the Seal-Less strapping system. The machine carries out the three jobs of tensioning the strapping, making the interlocking join out of the steel strapping itself, and automatically cutting off the remainder of the coil close up to the join without any waste. No separate seals are needed and the average case takes only a few seconds to strap. The latest machine, the Endless Tension machine, has special advantages for the wrapping of packages that are soft or of unusual shape. The company also exhibited their new semi-automatic wire tying machine by which cartons can be wire bound at high speed. The tensioning, tying, and cutting off of the wire supply are all automatically completed and the join is flat and safe.

■

Designed to handle the work of from three to five hand tyers, the automatic string tying machine shown by the Croxted Manufacturing Co. is available in two models. One is the manual cross tyer which, without adjustment, will make single, double, or cross ties on all size packages up to 16 in. × 9 in. The other is a larger model, the set-up box tyer, for stacks of rigid boxes up to 34 in. × 25 in. around which it places a double wrap of soft cotton twine.

WEIGHING AND FILLING MACHINERY

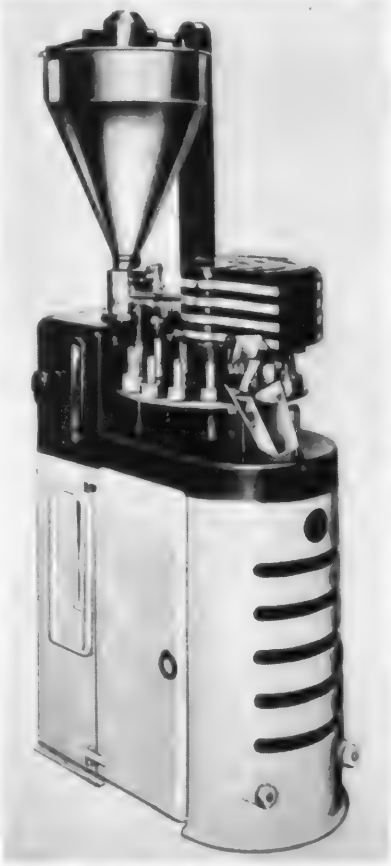
A full range of filling machines for both liquids and powders and also lidding machines, stopper corking machines, gravity weight operated machines for paints and oils, vacuum operated bottle and pickle fillers, and completely automatic vacuum operated all stainless steel liquid fillers, were shown by Albro Fillers and Engineering Co. The rotary type all stainless steel machine for filling sauces into bottles is adjustable for many types and sizes of bottle and has 15 filling heads which, with small bottles, will give an output of up to 100 bottles per minute. The largest machine in this range has 30 filling heads, giving a speed on pints of over 1,000 gallons per hour.

■

Powder handling machines, including the newly improved fully automatic loose filling machine for use with rigid containers, cans, jars, and cartons, were features of the Alite Machines stand. Also shown was the standard loose filling machine which fills specific quantities of any type of powder or granular substance from ¼ oz. to over 3 lb., the ampoule filling machine for use with pharmaceuticals, drugs, and other powders, and an ampoule washing machine designed to wash ampoules, etc., at a speed of approximately 3,600 per hour.

■

The first public appearance of the Kalix-Dupuy automatic tube filling machine was the highlight of the stand of the Flexile Metal Co., who also displayed a wide range of collapsible tubes. Another new machine was the automatic tube filling machine with welding jaws which give a completely airtight and watertight closure on tin-coated lead tubes. A wide range of other types of filling machine and also hand-operated filling, closing, and crimping machines were also displayed.



The Kalix-Dupuy tube filler.

A representative range of filling plant was shown by the Roberts' Patent Filling Machine Co. Included among the exhibits was a vacuum filling machine for glass bottles; a single unit filler - conveyor - lidder - printer for filling, lidding, and date stamping the underside of paint tins or similar products, and many other machines used in the oils and chemicals industry.

■

Five machines were exhibited by Southall and Smith. These were the tea weighing machine, the twin vibrator feed weighing machine, designed to handle metallic powders and all types of free flowing granular materials, a bag sealer and filler, a high speed fully automatic salt twist packing machine, with an output of 100 salt twists per minute, and fully automatic synchronised weighing equipment for incorporation with continuous mixing plants.

Refrigeration in Wineries

Low temperature treatment has particularly attractive possibilities for table wines since it is claimed that they can be thereby rendered palatable in the same year in which the grapes are harvested. Cooling to 5°C. moderates the fermentation of the grape juice while promoting settlement of suspended matter. The resultant slowing down of fermentation considerably enhances the quality, with the additional advantage that not all the sugar need be converted. Cooling the wine to near freezing point promotes deposition of the tartar, and this process can be completed before drawing off, so that after the subsequent filtration there need be no fear of further turbidity.

Wine cooling for the aforementioned purposes is best effected with a once-through cooler of stainless steel, using direct evaporation with F12.

Refrigeration may also be used in the manufacture of unfermented fruit juice, particularly for sterilisation. In the production of sparkling wines with in-bottle fermentation, no special equipment for removing yeast sediment from the bottles is needed if suitable chilling treatment has been applied. During champagne production, artificial cold is also a necessity in high pressure tanks for the purpose of settlement of the tartar as well as during filling off.

Single Service Pack for Orange Juice

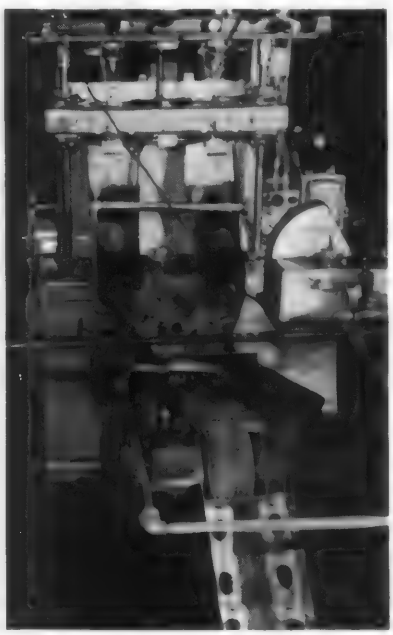
A new single service bag for fresh frozen orange juice concentrate is being marketed by a Florida packing company. The bag is a printed Cellophane-polyethylene combination, which is produced, filled, and sealed automatically by specially adapted equipment. Each bag contains 2½ oz. which reconstitutes into 10 oz. of orange juice.

TOWARDS the end of 1951, the Vice-President of a large drug store accepted a suggestion for a single service pack in film, if the packer could work out the technical problems.

From the retailer's point of view, the single service pack was considered important. Large sums had been spent on publicity for fresh orange juice, but it was found that assistants failed to follow it up, on account of the trouble involved in squeezing the oranges.

Other problems included the disposal of orange skins, and it was found that all the effort put into the design of special squeezing machinery failed to reduce the waste. The packing company's first efforts to satisfy the demand for a single service pack took the form of semi-fabricated bags of polyethylene film which were hand-filled and heat sealed, but this failed because of leakages. Nevertheless the experiment, although satisfactory in many respects, was encouraging enough to warrant further research.

Filling the bags with orange juice "slush" at 17°F.



The filled bags are carried on an endless belt for freezing to 40° below zero F.

The experts laid down that to be successful any bag must be transparent, waterproof, an oxygen barrier, strong, flexible at low temperatures, capable of mechanical sealing, machinable, printable, and priced within limits.

Use of a Laminated Film

It was finally decided to experiment with an anchored-type Cellophane, laminated to a 0·002 in. polyethylene film, joined by a special resinous adhesive, developed to resist delamination at very low temperatures.

This laminated combination had to stand temperatures of 40° below zero F. so that the orange juice which had already been semi-frozen into a kind of "slush" would be frozen solid. The bags took this test in their stride. All that remained was to test for rough handling in shipping and storage.

Filling Equipment

The machines used for filling the bags with the orange "slush" were based on two patterns. One was virtually a stock unit for filling bags while the other had more or less been designed and adapted to its new job.

Both machines had to be equipped with non-corroding plated parts as the produce was citrus concentrate. The electrical parts had to be sealed because steam cleansing of the machine, carrying out such filling, was essential.

The concentrate was fed into a hopper at 17°F. This produced both a frosting and also a condensate problem. The machines were fitted up for improved lubrication

and remote electrical control. Experiments showed that chilling to 17°F. had the tendency of embrittling ordinary machine parts.

At the time of writing the experiments are continuing. The juice is being marketed but research is not completed. At the moment, several experiments are under way. One idea is to fill the head space of each bag with nitrogen or some other inert gas in order to eliminate oxygen, thus improving storage qualities. This experiment is not completed and gas filling may not be necessary.

Mechanical storage is another problem which has yet to be solved. To succeed, it will be necessary to find a machine which can stand up to a temperature of 40° below zero F., since mechanical storage means that the machine would have to work at around that temperature.

At the moment a different system is being used. The filled packages are conveyed directly from the machines through a freezing tunnel. They then emerge through a self-sealing slot into an unrefrigerated packing room where hand packers load them into cases. As soon as the cases are filled they are moved into cold storage rooms.

Today the juice concentrate is being shipped in corrugated boxes holding 72 2½ oz. bags. The juice is held at 0°F. or below until the cases are delivered to individual stores where they are kept in the usual ice cream storage compartments ready for use.

The reconstitution of the juice is carried out by a special device. It consists of a metal cup into which the frozen juice is squeezed under pressure. The machine supplies the exact amount of water necessary for washing the juice into another container where it is mixed and aerated for about six seconds.

Packaging Plant and News from Home and Overseas

Label Design

During the past two years, Brand and Co. have given special consideration to presentation problems. From this emerged the attractive red and white label which is now featured on the company's meat and fish paste together with a number of other products.

To complete the process, the A1 Sauce label has now been adapted to this pattern.

A New "Energen" Pack

A new introductory display box of Energen rolls is now being distributed through the grocery, bakery, and pharmaceutical trades.

Printed in the familiar Energen blue, the pack has a lid which folds back to form a display for counter or window use, the rolls being protected by Cellophane.

Retailing at 1s. 3d., the introductory display box will attract new customers wishing to try Energen rolls without spending 2s. 6d. or 4s. 6d. for a standard carton of 30 or 60.

Plastic Lining for Food Container

A food container with a plastic lining that keeps foods and liquids palatably warm for at least three hours at temperatures down to −20°F. has recently been developed by the Knapp-Monarch Co., St. Louis, Missouri.

Three types of plastic material play an important part in the construction of the container. These include foam insulation, used in the body and cover; three supporting blocks of expanded Royalite copolymer material located at the bottom of the unit between the inner and outer walls; and a laminated phenolic sheet, which is formed into collars for use in the container body and cover.

Three removable inserts which fit inside the insulated container hold the food. These inserts are provided with handles which facilitate carrying the container and also hold the top on securely. The cover itself is hinged and closed with a latch. The low specific gravity of the foam insulation, about 0·08 lb. per cu. ft., reduces dead weight, about 1·4 lb. of the shredded material being all that is required. The foam material is blown from a hopper into the walls of the container. The walls of the main body are of aluminium, the inside shell, which is inserted into the outside container, being of expanded polymer material. The blocks separate the inner lining from the outer shell.

In assembling the container, the inside lining is inserted into the outer shell before the shredded insulation is blown into the open spaces, the blocks forming the separation. The inner lining is slipped into the shell from the bottom, and the container placed in an open-sided enclosure in an inverted position, so that the bottom opening is directly over a fan, and is clamped in a jig. An operator inserts a hose into the open spaces between shell and inner lining, and the fan used to blow the foam into the container.

Foodstuffs in Tubes

Foodstuffs packed in tubes are finding increasing favour in Britain. Fish pastes, potted meat, mustard, milk, cream, mayonnaise, and many other products, are regularly packed into tubes on the Continent, and the latest development in this country is the packing of honey in this way.

This product lends itself particularly to this form of package, since it is quickly and easily extracted from the tube.

The Chiltern Honey Farm, one of the biggest producers of English honey, are the pioneers of this venture; Universal Metal Products are responsible for the manufacture of the tubes, and for developing the complete pack to its final stage.

Sausages with Sauce

A number of American meat packers and sausage manufacturers have recently started packaging frankfurters with sauce in heat-sealed transparent film pouches.

The skinless sausages are placed in a pouch to which the sauce is added. The open side of the pouch is then heat sealed. The sauce, a special blend for use in Pliofilm pouches, acts as a stabilising agent, extending the shelf life of the complete package, but contains no artificial colour or preservative.

For preparation, the unopened pouches are placed in boiling water for seven minutes.

Packaging for Oatcakes

As oatcakes require full protection if they are to be kept crisp, the circular tin container is undoubtedly the ideal pack where a sufficient number of cakes is being sold, but cost precludes the widespread use of tin, even were supplies freely available.

The most popular substitute has been a strong circular board container with a multicolour printed all-round design, and with tin bottom and lid. This type of container is remarkably strong, is airtight, and is suitable for the purpose. Such a pack, however, costs at least 3d. and when it is remembered that the sell-

ing price of 13 oz. of oatcakes is 1s. 8d. it can be appreciated that the profit margin is extremely small.

For smaller units, selling at lower prices, the most commonly used pack is the heat-sealed wax paper wrap, either circular or three-cornered in shape. In some cases manufacturers have adopted a "see-through" pack in preference to a more solid paper.

Within these basic themes, the main development has been towards a more pictorial presentation. Oatcake bakers are fully conscious of the need to attract attention to sell. They are also conscious of a growing self-service trade, hence a general tendency towards full colour pictorial packs with historic, Scottish, or fireside associations.

One of the most attractive containers is a full colour presentation of a Highland scene in which a kilted figure tosses the caber.

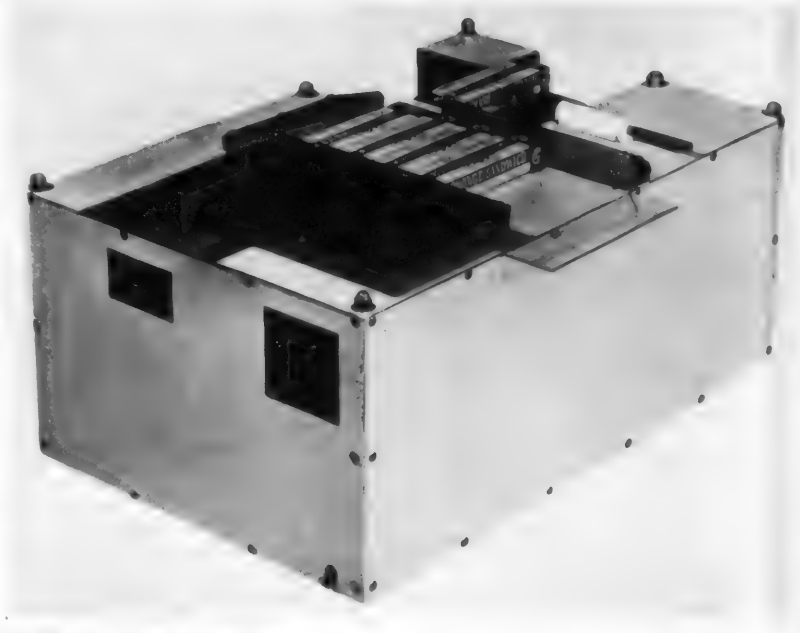
Although not yet in very wide use — if only because such presentation is costly—the multi-colour pictorial pack appears to be a likely development of the future, so far as Scottish packs are concerned. The tendency to cling to older one-colour packs is evident, but as in other spheres, the necessity to compete successfully will undoubtedly have the effect of forcing a further flow of attractive packs.

Check Weighing

Under no circumstances must a package contain less than its advertised minimum contents, regardless of the commodity. Neither can the manufacturer afford to allow packages containing much in excess of nominal contents to be delivered if the economy of his production line is to be maintained.

The development of the Hy-Tra-Lec check weigher by Industrial Products (Speco) has introduced an entirely new technique for tackling this problem, for it enables every package in the flow line to be checked individually and automatically before delivery, within very close limits, at high speeds and the rejection of underweight packages is 100 per cent.

The check-weigher is incorporated in the flow line in such a way that packages are delivered on to a transfer plate and each package is then pushed forward by those following, until it comes under the action of a transverse pusher which transfers it from the incoming line on to the weighing platform. The weighing element is set to trip at a predetermined weight; if the package is under that weight, the element does not trip, and the package immediately following pushes it off the weighing platform in a direction at right angles to the main flow line into a rejection line. If, however, it



The Hy-Tra-Lec check weigher.

is exactly, or more than, the set weight, the package causes the weighing element to trip and operate a second pusher which transfers it forward into a delivery line running parallel to the incoming feed.

Two models are available: one for weights in the range ½ oz. to 12 oz., and the other, in the 12 oz. to 2 lb. range. The weight settings of each model are infinitely variable between their maximum and minimum limits. A special feature of the design is that the weighing element is fully and automatically compensated for room temperature variations between 61°F. and 78°F.

Biscuit tin labels designed by Design Research Unit.

Biscuit Labels Restyled

It was the war-time regulations governing paper and printing for packaging that made Parkinson's of Preston decide to restyle their publicity material. The limitations by the end of the war were such that their labels were almost non-existent. No cohesion existed between any of the firm's printing, labelling, or advertising.

The restyling problem was two-fold, not only to improve the appearance of all printed matter, but to do so in such a way as to raise the status of the product to appeal to the higher class market which it merited, without alienating the existing market in which it had for so long been established.

The first essential requirement was the co-ordination of all presentation material into one generic house-style, the character of which would establish the biscuit as a high quality product, influence all supporting display and publicity material, and exert a powerful effect at the point of sale.

Selling Aids

Twenty-two selling aids have been issued to retailers by Birds Eye during the last 12 months; these included window bills and pelmets, showcards, and consumer leaflets.

In addition to the display material, Birds Eye have issued five leaflets for distribution. They include one which tells the quick frozen foods story, a price list, two recipe leaflets, and a chart showing the economies of using quick frozen foods in terms of waste, preparation, and cooking time.

Nut Packs

Many distinctive features of cellulose film are combined in some new nut packs whose general design might well serve as a model for other types of food products often sold as "snack items."

The nuts, manufactured by Allmey and Layfield, are packed in a double-walled bag of Cellophane; the inner wall is of moistureproof film, the outer of non-moistureproof film.

The inner wall protects the contents against the passage of water vapour and together with the outer wall, provides a strong, durable pack.

Nuts packed in a double-walled bag of Cellophane.

Packs for Whisky

Scotch whisky industry firms are developing highly pictorial packs aimed at the American market. The use of individual packaging has been confined so far to the North American market and current opinion in Edinburgh and Glasgow is that the present packs will be confined, for the present, to these markets. Other importing countries display a greater interest in the product as distinct from the pack; neither is there such highly developed competition from native brands; or, for that matter, so intense an interest in presentation.

For Scottish producers the six colour individual packs are more in the nature of a long-term investment than a necessary move to increase current sales, although it is recognised that there are lesser known brands which may well require the additional presentation to retain their place in a competitive market. Even the leaders accept the fact that they are selling a highly priced quality product and that the current perfection of presentation is in keeping with the merchandise they sell.

While adopting more decorative treatment few, if any, of the Scottish firms have moved away from their traditional themes. The essential feature of their pack is being retained and emphasised. The policy is rather to intensify the brand feature against a pictorial background.

London's Strangest Shop

Branded goods, ranging from disinfectants to mineral waters, are bought and sold in a shop which has been set up inside the offices of the Lonsdale-Hands Organisation. It sells only to the staff, and the operation of this store is really a continuing study of package performance.

Every single package on its shelves — and they will eventually run into hundreds — has been designed or adapted by the Organisation.

The members of the design team can watch their packages "in action." How do they look on the shelves? How do they handle? How do they stand up to the wear and tear of shopping. The answers to such questions are vital to designers.

In this shop, the counter can be removed so that it becomes a self-service store, where a package has to work still harder for its living.

Individual Vegetable Packs

Dehydrated Dutch vegetables, shipped in bulk to Scotland and then packed, are finding an increasing acceptance through grocery, meat, and allied retail outlets. This success is the more surprising in view of earlier experiences in this country with dehydrated food.

The extent of the success of this product can be assessed from the fact that a Glasgow firm sold no less than two million sixpenny packets of dehydrated vegetables in 1952, with sales still rising and new outlets being created daily.

The first lines imported from Holland have been mixed dried vegetables. These can be added to the stock pot or to soups without previous soaking. A further development, introduced recently, is the marketing of individual vegetable packs at sixpence each. These include dried onion, leek, and carrot, while a further development is a French bean pack.

The latest development consists of a complete dehydrated soup in which beef granules are incorporated with the mixed vegetables to give an easily made nutritious soup. The Dutch firms are making a strong point of produce picked and packed the same day. Reconstituted, their packs have proved successful in a difficult market.

The shop set up inside the offices of the Lonsdale-Hands Organisation.

Examples of Cadbury's four Coronation packs for their milk tray and Roses chocolates and the presentation hinged lid tin.

Coronation Packs

Special Coronation lines are being developed by Cadbury's. Presentation tins of milk chocolate are being sold to local authorities for free distribution to schoolchildren and, in addition, there are Coronation tins and boxes for sale through normal trade channels to the general public. The pottery mug is given in return for a number of Bournville cocoa labels.

Heat-sealed Unit Packages

A paper sheet that is economical and efficient for forming individual unit packages for edible and medical products has been developed by the Nashua Corporation of New Hampshire, U.S.A. The paper, known as Sayv, is coated with thermoplastic adhesives to give adequate protection against moisture, loss of taste, strength, and medical properties. This product is non-toxic, odourless, tasteless, resistant to grease, oils, mould, and staleness. Produced in flat sheets or in rolls, it is easily heat-sealed on semi-automatic or automatic machines, easy to handle, and will not crack or wrinkle, become brittle, or block in storage.

The coating characteristics of the adhesives used are so flexible that combinations of printing and adhesives are possible. The adhesive may be applied as an overall coverage on unprinted stock in one plant and then printed in another. An overall adhesive can be combined with located printing in one operation, and a located adhesive (strip, spot, or pattern coating) can be combined with located printing on the reverse side of the stock.

Packets are usually formed, with one end open, in continuous ribbons by heat sealing immediately before filling, and are then heat sealed along the open end immediately after filling. They may also be formed from two single-width webs superimposed adhesive face to face. This method seals three edges to form the open ended packet. A double-width web may also be used by folding adhesive face to face so that the folded side takes the place of one sealed edge.

In order to pass the manufacturer's tests of sealing qualities, specimens of the paper are heat sealed adhesive face to face for $\frac{1}{2}$ sec. under a pressure of 5 lb. per sq. in., at sealing temperatures varying from 250° to 400°F., and then subjected to paper tearing strain 1·3 sec. after sealing. Under these conditions, failure must occur in the paper and not in the adhesive interface.

Tartan Packs Hold Their Own

One of the most interesting trends in the packaging of confectionery has been a variation of the tartan theme adopted by a Scottish firm. Instead of using an artist's impression or a printer's formal tartan, this pack consists of a colour photograph of actual tartan, with the brand picture superimposed. The same idea has been used with very great success in the marketing of shortbread in the North American countries.

An interesting development is the use of colour photography printed direct on the tin. In this connexion a few famous scenes have been selected, suitable human interest is added—the result is a confectionery box which has an obvious appeal to the export market.

Yet another idea is an illustration of a Great Scots box or drum in which minute thumbnail characters are shown in black line on a white ground.

For export, however, tartan still remains the major selling background.

For home trade, new packs are on a less ambitious scale. One is a Cellophane bag overprinted with symbolic Arms, tying up with the red, white, and blue motif of the Coronation. Many of the packs at present on the home market consist of multi-purpose bags with a name tab clipped or stitched to the top, acting as a closure, a name tab, and as a point-of-sale ticket.

For presentation purposes, chocolates are being packed in excellent boxes bearing reproductions of the Queen in full colour.

Packing Foods and Chemicals

During the Packaging Exhibition, Autopack provided facilities for visitors to see a wide range of their semi- and fully automatic weighing and packing machinery under actual working conditions at their Cuffley Works, and to discuss their particular problems with the company's designers and technicians.

The range of machines for the food and chemical industries and for laboratories made by Autopack includes those for weighing and filling; cartoning and tin filling; screw capping, Cellophane wrapping, sachet making; seeds, powders, tablets, etc.; and for ampoule washing, filling, cutting, and sealing, and vial filling and capping.

Greetings Acknowledgments

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Gelatine and Glue Research

THE first paper to be read at the sixth meeting of the Research Panel of the British Gelatine and Glue Research Association was by Dr. W. E. Braybrooks (Stokes and Co.) with the title "Tannery Treatment of Pieces and Fleshings." Dr. Braybrooks described the tannery processes which precede the despatch of waste material, pieces, split hides, and fleshings to the gelatine or glue works, and outlined the reasons for the use of different types of process. He described the effect on the hide of short dehairing processes, using strong sulphide solutions in addition to lime, as compared with the slower acting lime treatments which may have small sulphide additions. He also considered the use of drum dehairing and liming in comparison with pit liming, with or without agitation.

The second paper, "The Extraction of Hides" by Mr. D. Fysh of the Association's staff, described small scale experiments on gelatine production. The principal variables considered were period of pretreatment of the raw material with lime suspensions, time, temperature, and *p*H of extraction, solid/liquid ratio in extraction and the effect of added salts. In each instance rate of extraction and the quality of the product were determined. The method of extraction followed the works process in carrying extraction virtually to completion, by using five successive operations of increasing severity.

"Bones Processing" was the subject of a third paper by Mr. D. B. Hall (John Knight, Ltd.). Mr. Hall commenced by describing the nature and mode of collection of the industry's raw material. He then followed the process, stage by stage, to the point at which the dilute glue liquors are ready for evaporation. At each stage he commented on the method of operation of the plant and on the problems which arise.

The final paper by Dr. E. M. Vyner (Sheppy Glue and Chemical Works) described the evaporation and drying of gelatine and bone glue liquors. He outlined the principles of drying and discussed the main actual and potential methods of going from a dilute gelatine or glue solution to the dry material. These included spray drying, freeze drying, single and multi-effect evaporators with or without thermal recompression, low temperature (ammonia) evaporators, the various means of producing subdivided jellies for the final stages of drying, and drying tunnels or batch driers. The ideal of a single economical process giving a conveniently sized end product for use had not as yet been completely realised.

Scientific Butchery

ONE of these days it may be possible to go into a grocer's shop and consult the assistant with reference to the vitamin or protein content of the foods he is selling over the counter. There have been many schemes and courses suggested which would conduce to this end. It may be possible also to discuss with one's milk roundsman the properties of T.T., pasteurised, sterilised, and homogenised milk. These ideas came to mind when reading a recently published book* which deals with the biology, osteology, anatomy, and physiology of meat animals.

In the foreword to the book, Mr. Frank Gerrard considers that it is just as necessary for the butcher (as well as the potential meat inspector) to be acquainted with these matters, as it is for the engineer to be familiar with the structure, hardness, and strength of a bar of mild steel. This book is an admirable exposition of the construction and functions of every part of the meat animal and if the instruction given is adequately absorbed, a new generation of butchers should arise.

There is little criticism that can be directed towards the treatment and arrangement of the different sections. An appendix gives some suggested details on "Substitution and Differentiation." The author gives details of the resemblance between sheep and dog, sheep and goat, veal and sheep or goat, venison and goat, and perhaps more suggestive, rabbit, hare, and cat or small dog. He points out that there have been many attempts to substitute cat carcasses for rabbits, and he gives indications for their differentiation.

The paragraph headed "Pigs and Humans" has a certain morbid interest. In it we learn that cannibalism has occurred in devastated countries in Europe after recent wars, and is still suspected to occur in certain recently civilised countries in other continents, which may interest those travellers who wander further afield than the usual places either for pleasure or on their lawful occasions. Human red muscle, we are told, is indistinguishable from pigs, but human fat is golden yellow and, compared with pigs, is scanty. As a rule, a hand lens is sufficient to detect human skin, but a "serum test" should be applied in case of doubt!

* *The Structure of Meat Animals.* By Roderick MacGregor, F.R.C.V.S., M.R.S.I., M.I. of M. Pp. vii+238. Technical Press. Price 20s.

Food Packaging

(*Continued from page* 57)

rapidly. It has been truly said that with modern retailing methods each package has, in effect, to be its own salesman.

Present trends clearly show that food manufacturers are fully alive to the possibilities inherent in modern packaging materials, and are actively pursuing policies which ensure that these materials are used to the best possible advantage.

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Transport and the Food Industry

Part I

Graham Saville

The Transport Bill proposes widespread changes in transport arrangements and law, and although doubtless there will be certain modifications before the Bill becomes law, preparations must be made to meet the new circumstances which will affect the transport costs and arrangements of food manufacturers.

THE main feature of the Transport Bill is undoubtedly the scheme for the denationalisation of the Road Haulage Executive undertaking.

The Government have made it clear that they wish the change from public control to private enterprise to be carried out with the minimum of dislocation and inconvenience to industry, but food concerns, having in mind previous changes, must anticipate some disturbance during the changeover period.

It is intended that the nationalised goods road undertaking should be split into units which should be offered to tender. No particular section of the community is to have any prior right to purchase these units.

It is laid down in the Transport Bill that the units are to be mainly of a small character and no unit is to consist of more than 50 vehicles, or vehicles of total unladen weight of more than 200 tons, unless prior consent is obtained from the Minister of Transport.

It is obvious that certain property will have to form part of the units to be sold, but this will be determined in each case. The object behind the sales policy is for the units to be such as can easily establish themselves in the road haulage industry.

The disposal of the Road Haulage Executive undertaking is to be in the hands of a body to be called the Road Haulage Disposal Board.

Restrictions on Free Operation

There have been two main factors restricting the free operation of goods vehicles in recent years. These restrictions are the licensing procedure set up by the Road and Rail Traffic Act, 1933, which has made it difficult for road hauliers to increase their fleets, and the 25 mile restriction on radius of operation imposed by the Transport Act, 1947.

Naturally, to encourage buyers it has been necessary to give some assurance on these two points.

It is intended that vehicles taken over should be granted "A" licences for a five year period and that they should not be subject to the 25 mile restriction. The "A" licence permits of operation without restriction.

It has been felt in many quarters that the licensing procedure developed under the Road and Rail Traffic Act, 1933, has had the effect of retarding the progress of the road haulage industry. This has prevented road haulage playing its proper part in the economic life of the country.

In order to amend this position it is proposed to make certain amendments to the 1933 Act.

Licence Applications

The present position regarding "A" and "B" vehicle licence applications is that the applicant has to show there is a need for the facilities he wishes to provide and also that existing transport facilities could not cover the work.

It is proposed that this position be reversed and any party objecting to an application should prove that existing transport facilities are adequate and that there is no need for the additional vehicles or tonnage.

Another feature concerning licence applications is that it is proposed that Licensing Authorities should pay regard to the cost of transport. This point did not need previously to be taken into consideration.

In addition favourable consideration will have to be given to applications involving vehicles to be used to carry goods partly by road and partly by rail without the need for unloading and loading. In this way container traffic will be encouraged.

Removal of 25 Mile Restriction

The revised Transport Bill has amended the position regarding the 25 mile restriction. It is now proposed that this should be withdrawn at the end of 1954.

The time which should elapse between the sale of the units and the withdrawal of the 25 mile restriction should give the new units time to establish themselves.

Transport Levy

One of the principal features of the Transport Bill of concern to food manufacturers is the intention to impose a transport levy on goods vehicles.

The Bill provides that this levy shall apply to all goods vehicles, with the exception of electrics, farmers' goods vehicles, showmen's and local authorities' vehicles, and those of under one ton unladen weight.

The amount of the proposed levy is quite large as the figure given for the first period of two years is 13s. 6d. for each quarter of a ton of unladen weight. There are also to be special charges for vehicles used to draw trailers and a separate scale for tractors.

The levy is to start on January 1, 1954, but the purpose of the levy now refers principally to losses incurred by the British Transport Commission from the sale of the Road Haulage Executive undertaking.

It will be recalled that it was originally intended to provide compensation for losses caused by transfers of traffic from rail to road. This should mean that it should be possible for the levy to

be discontinued or reduced earlier than would previously have been possible.

Schemes of Charges

Another aspect of the Transport Bill of major importance to food manufacturers is the new position regarding charges.

The Transport Act, 1947, placed an onus on the British Transport Commission to prepare draft schemes of charges, to cover the services being operated by them, for submission to the Transport Tribunal.

The Bill removes the liability of the Commission regarding goods road transport but continues it for rail.

Much preparatory work had been done regarding the rail draft scheme and it was intended that traffic should be charged according to its loadability.

Various new principles are laid down in the Bill. Instead of fixed or standard charges, it is proposed that under the new scheme maximum charges should be fixed whenever possible.

If it is not possible to fix a maximum charge, the British Transport Commission will have power to make a reasonable charge. If such a charge is disputed the Transport Tribunal will be called upon to determine the matter.

It is also proposed to give the Commission greater freedom with regard to rail charges generally.

The British Transport Commission will be able to apply to the Transport Tribunal for temporary changes to their charges schemes. Instead of following the normal method of publication and public enquiry, the Tribunal may consider the application in private and, if in agreement with the application, may authorise temporary amendments to produce not more than 10 per cent. additional revenue from any scheme.

The Commission will afterwards have to make application in the normal way for approval of the changes.

Various restrictions are also to be removed. The British Transport Commission will not have to publish any of their charges except the maximum ones. The necessity for making "equal charges" and for avoiding "undue preference" is to be discontinued. Greater freedom is also to be allowed regarding agreed charges.

The Transport Bill gives various indications of the main changes envisaged in respect of the nationalised railways. As it is felt the present rail organisation is unwieldy, it is intended, for operational purposes, to split the railways into smaller units. These units will probably coincide with the present regions, but the responsibility for drawing up a scheme to implement these proposals is to rest with the British Transport Commission.

Vehicle Operation

Most food manufacturers will have been concerned with the changed sales position in recent months and will be aware of the increased importance attached to prompt delivery.

It has, therefore, become necessary for existing transport arrangements to be examined and for consideration to be given to the wisdom of increasing vehicle fleets or in some cases commencing the operation of vehicles.

The method of distribution to be adopted by individual food manufacturers will naturally depend to a very considerable extent on the character of their operations and on the extent of their distribution. This also affects the type of vehicle to be operated.

In giving consideration, however, to the use of their own vehicles for collecting raw materials and distributing finished products, food manufacturers must be aware of the more important features involved in vehicle operation.

Types of Licence

The types of carrier's licence available are the first aspect of vehicle operation to be appreciated. There are three main types of carrier's licence brought into effect by the Road and Rail Traffic Act, 1933. These are the "A" licence which applies to vehicles used solely for the carriage of goods for hire or reward, the "B" licence which covers those vehicles used to carry the trader's own goods and also used for hire or reward, and the "C" licence which is limited solely to the carriage of the trader's own goods.

A special point which must be borne in mind at the present time is that most "A" and "B" licences are now restricted to a 25 mile radius. In certain cases, however, road transport contractors have obtained permits allowing them to operate outside this limit.

It has also to be borne in mind that most "B" licences bear very restrictive conditions with regard to the work which may be done for hire or reward.

The form of licence which is of main interest to food manufacturers is the "C" licence. It should be stressed that generally speaking, unlike the other types of licence, a firm may obtain a "C" licence almost automatically.

Two other types of licence are of interest to food manufacturers. The first is the "A" contract licence, under which a road haulier supplies a vehicle or vehicles for the exclusive use of a trader. While at one time these also could be obtained almost automatically, at present the Licensing Authorities for goods vehicles normally require to see that there is a fair contract being arranged before they will grant such a licence. The other form of licence of interest to food manufacturing firms is the "C" hiring margin or allowance.

Under this form of licence a "C" licensee can hire a stated number of additional vehicles each of a given maximum unladen weight.

The points which must be appreciated, however, are that no vehicle may be effectively specified on more than one licence at a time and that such vehicles must be driven by drivers in the employ of a "C" licensee.

There have been several attempts in recent months for road hauliers to evade the law with regard to vehicles being operated under "C" hiring margins; this has given rise to a number of prosecutions.

Probably the most important

point regarding vehicle operation at the present time concerns drivers' hours and rest periods.

There are slight differences between the hours applying to "A" and "B" vehicle drivers and those referring to "C" drivers.

Drivers' Hours and Rest Times

Food manufacturers should be aware that there are three main points to be kept in mind regarding "C" drivers' hours and rest periods, and provided these are complied with there will be no breach of the law.

The three points are (1) that no person may drive for a period exceeding five and a half hours, after which there must be a break of at least half an hour for rest and refreshment, (2) no person may drive for a period of more than 11 hours in any 24 hour period commencing at 2 a.m., and (3) there must be a rest period of at least 10 hours in any 24 hour period calculated from the commencement of a period of driving. This rest period may be reduced to nine hours if the driver is allowed 12 consecutive hours for rest during the next 24 hour period.

There are a number of points which must be appreciated by food manufacturing firms with regard to the interpretation of these three points.

Firstly, it has to be understood that any time spent by the driver in connexion with the vehicle or its load, including loading and unloading, must be counted as driving time. There are, however, exceptions to this.

If a vehicle is engaged on work in connexion with forestry or agriculture and is not standing on a road, such time does not count as driving time.

The half-hour rest period mentioned in (1) may be taken on the vehicle if the driver has some refreshment with him. The main rest period of 10, nine, or 12 hours is different, however, as the driver must not be subject to the instructions of his employer during this time. In addition the vehicle must be in such a place as to permit the driver to rest away from the vehicle.

There is often considerable confusion with regard to the driving spell of 11 hours as mentioned in (2). The time from which this period of driving is calculated is the 24 hours commencing at 2 a.m. It is feasible, therefore, that with certain journeys a period of 11 hours can be exceeded. Also, by having an additional driver on the vehicle and by allowing one driver to "rest" while the other is driving, it is possible to have a longer spell than 11 hours and still comply with the law.

Log Sheets

Another feature of vehicle operation which is of considerable importance is the keeping of log sheets as laid down by the Road and Rail Traffic Act, 1933. The details which must be recorded differ slightly between full-time and part-time drivers.

With full-time drivers' and attendants' hours, it is necessary for details of the times the drivers commenced work and also finished work to be recorded, together with their intervals of rest.

With part-time drivers it is only necessary that the actual time spent on driving should be recorded. There are also certain concessions relating to the manner in which part-time drivers on local work may record this information.

The log sheets have to show details of the vehicle licence, the nature of the goods carried, the destination of the goods, and the greatest weight of merchandise carried at any one time.

There are also small concessions regarding the recording of the destination point with regard to vehicles engaged on delivery and/or collection work within a 25 mile radius of the vehicle's loading base. In such cases it is only necessary for the area served to be shown.

Log sheets must be compiled currently by the driver but not in anticipation of the journey. They must also be signed by the driver or, where there is more than one driver, by each driver.

Log sheets have then to be delivered or handed to the licence holder or his authorised representative within seven days of the expiration of the period to which the record relates.

Food manufacturers should be aware that the current impression that vehicles should bear owner's name and address is not correct and it is not necessary that this should be shown on a vehicle.

The only exceptions apply to certain special vehicles, such as those used for selling ice cream.

In Scotland, however, it is laid down that every "cart or carriage used for the conveyance of goods or plying for hire" must bear the owner's name and address.

Reporting an Accident

Should an accident occur owing to a vehicle being on a road and damage or injury is caused to any person, vehicle, or animal, the driver of the vehicle must stop. It should be understood that the Road Traffic Act, 1930, lays down the definition of an animal as any horse, cattle, ass, mule, sheep, pig, goat, or dog.

Any person having reasonable grounds may demand the driver's name and address, and also the name and address of the owner.

If the driver does not give his name and address to any such person then the accident must be reported to a Police Station or to a Police Constable as soon as is practicable, and at least not later than 24 hours after the accident.

Similarly, accidents involving personal injury must be reported within 24 hours unless a relevant Certificate of Insurance is produced at the time of the accident to a Police Constable or some other person having reasonable grounds.

Food manufacturers should be aware that under the Road Haulage Wages Act, 1938, various schedules of wages are laid down for drivers of "A" and "B" vehicles. The same position does not apply with "C" vehicle drivers, but it is laid down in the Act that the wages paid to "C" vehicle drivers must not be unfair.

Food manufacturers will find that much of the information required by law to be kept in respect of goods vehicles can be extended to provide data to show the cost and efficiency of their vehicle operation.

(*To be continued*)

News from the Industry

FORTHCOMING EVENTS

Institute of Physics

There have been in recent years numerous publications relating both to the development of instruments and to the fundamental physics of the processes involved in measuring particle size, especially for sizes in the range of 0·1 to 30 microns. Measurement of particle size distributions is made in many sciences and industries, and since it is now some five years since the last British conference on particle size analysis (organised by the Society of Chemical Industry and the Institution of Chemical Engineers) it is felt that the time is now opportune for a further exchange of views. To this end, the Institute of Physics announces that it is arranging a conference on "The Physics of Particle Size Analysis" to be held in the University of Nottingham from April 6 to 9, 1954.

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The Institute of Meat

Three meetings have been arranged by the Institute of Meat for February as follows:

Feb. 2. "Abattoir Design and the Experimental Abattoirs at Guildford and Fareham," by A. W. Anderson, Director of Slaughterhouses, M.O.F., to be held at 5.30 p.m. at the National College of Food Technology.

Feb. 9. "The Utilisation of Animal By-products," by J. E. Horner, Deputy Director of Slaughterhouses, M.O.F., to be held at 7 p.m. at the Chamber of Commerce Building, New Street, Birmingham.

Feb. 23. "Slaughter Methods in Great Britain," by R. H. Blythe, commodity instructor, National College of Food Technology, to be held at 7.30 p.m. at the Y.M.C.A., Shakespeare Street, Nottingham.

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Society of Chemical Industry

The February meetings of the Food Group of the Society of Chemical Industry are as follows:

Feb. 11. Domestic meeting.

Feb. 26. "Pathogenic Organisms in Food," by Dr. C. Cockburn, Dr. Joan Taylor, and Dr. R. E. O. Williams. A joint meeting with the Microbiology Group to be held in London.

The Agriculture Group has arranged the following meetings for February:

Feb. 16. "Physical Factors in Relation to Biological Activity of Insecticides." A meeting of the Crop Protection Panel to be held at the Chemical Society at 5.30 p.m.

Feb. 17. "Substitute Feedingstuffs," by Dr. A. Eden. To be held at the Chemistry Lecture Theatre at the Royal College of Science at 2.30 p.m.

Two meetings have been arranged by the Microbiology Group for February:

Feb. 5. Visit to Barclay Perkins and Co., Southwark.

Feb. 26. See Food Group meetings.

*

The Royal Institute of Chemistry

Among the meetings arranged for February are the following:

Feb. 11. "The Physics and Chemistry of Detergent Solutions," by K. G. A. Pankhurst. To be held at the South-West Essex Technical College, Walthamstow (with the South-West Essex Technical College Chemical Society) at 7 p.m. This paper will also be read on February 26 at the South-East Essex Technical College, Dagenham, at 6.30 p.m. (with the South-East Essex Technical College Chemical Society and the London Section, Society of Chemical Industry).

Feb. 18. A Discussion on "Education in Chemistry" with the British Association of Chemists.

Feb. 28. Dance to be held at Caxton Hall, S.W.1, at 7 p.m. with the London Section, Society of Chemical Industry.

The Summer School in Analytical Chemistry is to be held from September 6 to 12 at the Royal College of Science, Royal School of Mines, South Kensington, S.W.7.

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Royal Society of Arts

Included in the meetings arranged for February is the following:

Feb. 11. "Increasing Beef Production," by W. A. Stewart, and "Increasing Milk Production," by W. R. Trehane.

Annual Dinner

The annual dinner of the Watford Chemical Co. was held on December 12 at the Oxford and Cambridge University Club, Pall Mall, London, S.W.1. Dr. W. K. S. Wallensteiner, technical director of the company, and Mrs. Wallensteiner, received the guests and Dr. Wallensteiner proposed the toast of "The Guests," who included the U.S. Commercial Attaché and the Commercial Counsellor of the German Embassy. Other speakers were Dr. J. W. Whitlock, J.P., Mr. Bob Edwards, general secretary of the Chemical Workers' Union, and Mr. G. M. Todd, chairman, who referred to the company's growth since its foundation in 1942 which had culminated in the opening of a branch in Canada.

Change of Address

All departments of Monsanto Chemicals, Sales Division, are now at Victoria Station House, Victoria Street, London, S.W.1 (Tel.: VICtoria 2255).

Success of the Bombay Dairy

At the completion of the second successful year of operation of the Bombay Dairy a congratulatory cable has been received by APV from Mr. D. M. Khurody, Milk Commissioner for Bombay. The dairy, which processes all milk produced at the Aarey Milk Colony, Bombay, was planned and equipped by APV.

Gift to Chairman

A presentation of a gift of plate, together with an illuminated address, was made to Mr. H. Cecil Booth, F.C.G.I., M.I.C.E., as a souvenir on his retirement from the active chairmanship of the British Vacuum Cleaner and Engineering Co.

The presentation was made to Mr. Booth by his successor, Mr. J. J. Hambidge.

Extensions to Cornflour Plant

At a hearing on local development at Paisley, Brown and Polson intimated their intention to erect a factory adjoining their existing premises. This would be used for the manufacture of medicinal chemicals from the corn steep liquor from the starch works.

The plant is now working at three times the 1943 capacity and adoption of the proposed plan would double that capacity. The firm, which has had experience of such production on the Continent, claimed at this hearing that location alongside an existing plant was the most advantageous site. At present corn steep liquor from Paisley is used extensively in the manufacture of penicillin; expansion on this and allied products is planned.

Productivity Team for the U.S.

The first Specialist Team to visit America under the auspices of the British Productivity Council left this country on January 15. The team is not concerned with details of either technique or manufacture but with how new knowledge and new ideas are applied. It will also study the steps that are taken to improve the factory floor routine; what is the extent of the impact on design of manufacturing methods; and what facilities are given for training in industrial engineering. The main task is thus to investigate what it is in the practice of American industry and of the American company that results in their dynamic and aggressive attitude to change of methods.

The visit is being made with technical assistance from the Mutual Security Agency.

The U.G.B. torque tester.

Torque Testing

Through their Closure Division, the availability of an instrument to enable closure tightness of screw caps, metal or moulded, to be correctly arrived at and subsequently controlled on the production floor has been announced by the United Glass Bottle Manufacturers.

This instrument, registered under the trade mark "Kork-a-Torque," is British made throughout in their own works by arrangement with the Owens-Illinois Glass Company of America.

There are two models, both the same size, Model 25 reading from 0 in. lb. to 25 in. lb. suitable for closures of 15 mm. to 38 mm. diameter and Model 100 graduated to 100 in. lb. for use with closures over 38 mm. diameter.

The difficulties which can result from the failure of proper control of cap tightness are obvious and serious, but the following should be emphasised:

1. Minimum tightness is essential to avoid evaporation or leakage of the product.
2. Caps applied too tightly may be difficult to remove.
3. Excessive torque may break moulded caps, destroy the nature or value of the wad or insert and, in the case of non-ferrous metal, cause distortion of the cap to the extent of overriding the threads of the glass container.

A comprehensive instruction manual with three glazed cardboard tabulation tables is given for use on the production floor.

German Confectionery Pack

The photograph on page 38 of the January, 1953, issue of FOOD MANUFACTURE was published by permission of *Konditorei und Cafe*.

OBITUARY

Mr. William Grant Fiske, a former director of Thames Board Mills, on December 7.

With his brother, the late Mr. E. B. Fiske, he was responsible for many developments at Thames Board Mills and for the designing of the plants at Purfleet and Warrington; but it is as a pioneer of fibreboard packing cases that he will be remembered in the packaging industry.

*

Mr. Ernest Twigg, managing director of Robert Jenkins and Co., in his 65th year.

Mr. Twigg commenced with the firm in 1901 as an indentured commercial apprentice to the late A. T. Jenkins, J.P., and was the first indentured apprentice in the company.

He was appointed secretary of the company on its formation in 1917 and continued in that position until 1946. He became a director in 1920, and was appointed managing director on the retirement of Mr. Edgar J. Jenkins in 1946.

*

Mr. Alfred G. C. Sutton, former managing director of G. F. Sutton, Sons and Co., in his 81st year.

He spent over 60 years in the business founded by his father, which is at present carried on by his sons and nephews.

Research and Industry

At the annual general meeting of the British Gelatine and Glue Research Association, Mr. G. W. Odey, C.B.E., M.P., chairman of Barrow, Hepburn and Gale, was re-elected President of the Association.

The chairman, Mr. S. G. Hudson (Richard Hodgson and Sons), in his remarks concerning the annual report, outlined the progress made since the Association was formed. He commented on the expansion of work on user problems now taking place and expressed the hope that increased co-operation with user firms, through Associate Membership, would be secured in the forthcoming period.

Relations between member firms and the Association's staff were discussed by Mr. A. G. Ward, Director of Research, who emphasised the conditions necessary to secure fruitful work.

Sir Roger Duncalfe, chairman of British Glues and Chemicals, in proposing a vote of thanks to the Council and staff of the Association, paid tribute to the past work and stressed the responsibilities which fall on the industry in giving guidance to the Association concerning the relation of the research programme to the needs of the industry.

Examinee Wins Bronze Medal

A first prize Bronze Medal has been awarded by the City and Guilds of London Institute to Mr. Jack Lambert of the Wharfedale Creamery Co. for his work in the examination.

Canned Fruit Exports

Mr. Graham P. Smedley, a director of National Canning Co., Smedley's, and Smedley's Angus Fruit Farms, is visiting America and Canada on behalf of these companies.

During last summer substantial deals were concluded with American and Canadian firms and large tonnages of fresh frozen raspberries in bulk were shipped to New York and Canada. It is with the main object of fostering and increasing this export trade that Mr. Graham Smedley is visiting North America.

Copper Coating Pans

A coating pan suitable for the production of dragées or comfits and measuring 36 in. diameter × 24 in. deep with 24 in. diameter opening is being produced by C. Skerman and Sons. Fabricated from solid hand hammered copper, it is mounted on a solid cast-iron base, having a steel worm and phosphor-bronze worm wheel running in an oil bath. Drive is through a V-belt from a 1½ h.p. motor totally enclosed in the extended base, thus providing a unit that is free from collecting dust.

Smaller models are also available from the company, who can supply hot or cold air blowers giving controlled temperatures up to 170°F.

In all cases, copper pans can be made shaped to individual requirements.

Copper dragée or comfit pan.

Distribution of Laboratory Glassware

Additional distributors for laboratory glassware have been appointed by Quickfit and Quartz Ltd. They are Baird and Tatlock (London), W. B. Nicolson (Scientific Instruments), and W. and J. George and Becker.

Bobber's Mill, Nottingham

As and from January 5, 1953, Alfred Bird and Sons became solely responsible for the operation of Bobber's Mill, Nottingham.

The mill, which is a well-known local landmark and has been in production since 1818, was first constructed as a water-mill, fed by waters from the River Leen. Complete modernisation of the plant and equipment was carried out in 1947, making it one of the most up-to-date small milling plants in the country.

Refrigerated Display

A display and storage cabinet, especially suitable for meat, cooked meats, and dairy produce, is being marketed by Prestcold. The upper section is arranged to display produce under ideal conditions of temperature and humidity, while the lower section is for storage. Special features include maximum visibility, illuminated display, and lift-out sliding doors to the display section to facilitate rush-period service and cleaning. A temperature of 36° to 40°F. is maintained in the storage compartment and 38° to 42°F. in the display section, higher temperatures being also available for fruit and flower display.

Packaging Research

At the annual general meeting and luncheon of PATRA, Mr. G. L. Tillotson (chairman of Council) briefly reviewed the work in progress at the Leatherhead laboratories, and he stressed the increasing importance of applying existing knowledge in the works to increase production.

Col. the Hon. J. J. Astor, LL.D., retiring after four years' service as President, was elected a Vice-President.

Sir Guy Harrison was elected President and Mr. G. L. Tillotson re-elected chairman for a further period.

Mr. W. L. Bemrose, O.B.E., retired as Vice-President and Sir Robert Leighton, Sir Norman Scorgie, C.V.O., C.B.E., and Dr. C. H. Clarke, O.B.E., were re-elected Vice-Presidents.

Mr. Arthur E. Watts and Mr. Eric J. Harrison were re-elected Vice-Chairmen, and Mr. R. G. Connell, M.A., was re-elected Hon. Treasurer.

At the annual luncheon, held at the Connaught Rooms, London, Col. Astor presiding, the principal guest, Sir Wallace Akers, C.B.E., F.R.S., emphasised his belief that research could not fail to be a most profitable investment.

Coinciding with the annual general meeting and luncheon, the Association staged its customary exhibition which, while it included much of the work in progress, was devoted mainly to telling members how the Research Association sets about bringing its results before its members and the industry generally, not only by the printed word, but also by means of exhibitions. The main display on this occasion was the printing exhibition which has already been shown in many centres of the country and is scheduled for more showings in 1953. This display was supported by a similar one of current work on package testing and research.

Price Reductions

As a result of the amalgamation of the companies Spirax Manufacturing Co. and Sarco Thermostats, the prices of an appreciable number of their steam engineering products will be reduced.

Spirax-Sarco advise also that the delivery of nearly all the standard Spirax articles in their range is from stock.

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The following is the new schedule of reduced prices for Bisol butyl acetate and ethyl acetate (all prices are per ton, carriage paid, in packages returnable at seller's expense):

	Butyl Acetate per ton	*Ethyl Acetate per ton*
20 tons spot or contract	£191	£151
2 tons spot or contract	£193	£153
45 gallons	£196	£156
10 gallons	£216	£176
5 gallons	£226	£186

Bulk delivery and quantity rebates remain unchanged.

6,638 Years of Service

The first annual dinner and concert of the Six Hundred "25" Club was held on December 9.

In 1934, George Cohen, Sons and Company celebrated its centenary year, and watches were presented by the directors to all employees who had been with the company for 25 years or more. In that year, 25 employees qualified for the award, but the practice was continued, and early in 1952 the number of employees with 25 years of service or more totalled 220. All those who had completed 25 years' service were given an attractive silver lapel badge, and two with over 50 years' service a gold badge. This presentation gave rise to the idea of the formation of a club for long service personnel, and thus the Six Hundred "25" Club was formed, membership being open only to those members of staff who have completed 25 years of continuous service.

Two members of the Club are gold medallists, nine others have been with the Group over 40 years, and 89 can boast over 30 years' service. In the aggregate the present membership of the Club represents some 6,638 years of continuous service—a remarkable record.

Pallets for the Unit Load

Nine nations were represented by 34 delegates to the first international conference held in London to prepare standards for pallets for through transit of unit loads. In addition, seven observers attended as representatives of international bodies concerned with transport matters.

The meeting was held under the auspices of the British Standards Institution, which holds the technical secretariat on this subject under the International Organisation for Standardisation.

The increasing use of pallets for loading materials, particularly in international trade, makes the problem of agreed standards of dimensions one of paramount importance when it is realised that goods may be loaded and unloaded many times between works and the oversea customers and between works and buyer when both are in the same country.

It is therefore satisfactory to know that the conference reached agreement on several fundamental points. First, that there should be clear distinction between standards for international transport and national standards—the latter to cover conditions peculiar to each country and for pallets which would not be sent beyond the boundaries of a country. Secondly, two sizes only were fixed for pallets for international trade, 40 in. × 48 in. and 32 in. × 48 in. Thirdly, overall sizes, the height between the pallet decks for free entry for the forks of the lifting truck, and the height above the ground of the upper deck, were decided so that these pallets were virtually completely standardised.

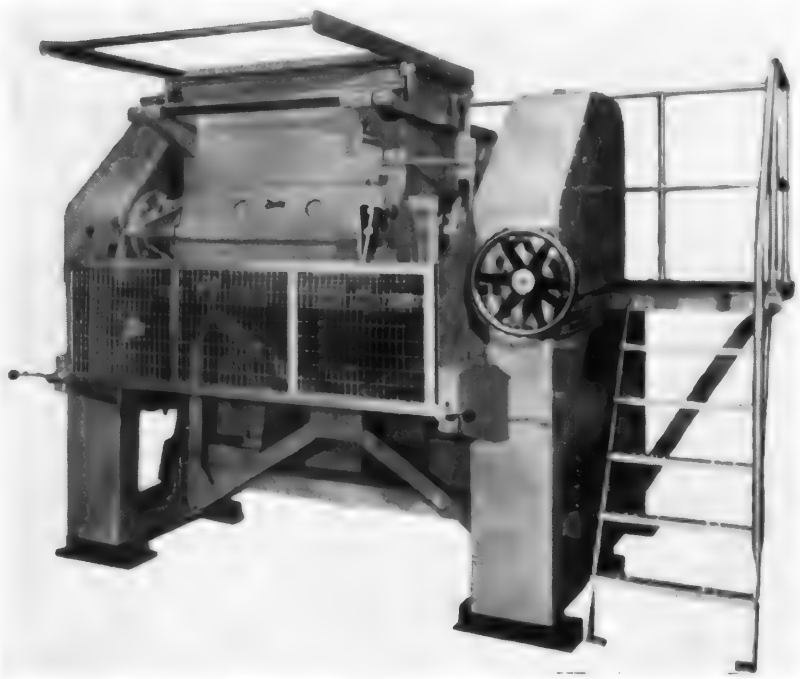
A fourth point on which agreement was reached related to the need to prepare an international standard for special pallets of larger size for sea transport, and a working group has been set up to consider this and other relevant matters.

Dublin Branch Opened

A branch office at 79, Merrion Square, Dublin (Tel.: Dublin 66879) has been opened by Brian, Jenks and Co. This office will be under the management of Mr. F. S. Magan.

White Bread without Improvers

USE OF AERATION PROCESS



The new Morton mixing machine used for the production of white bread without employing bleachers and improvers.

After more than four years of research and exhaustive tests, a machine has now been perfected to produce white bread without employing any chemical bleachers and improvers such as agene.

This high-speed mixing machine, built by the Morton Machine Co., is employed with a process patented by Joseph Rank, Ltd., using untreated and unbleached flour.

With this method, known as the "aeration process," half the untreated, unbleached flour used in the final dough is whipped with water at very high speeds in this machine for approximately five minutes. During that period sufficient oxygen is taken from the atmosphere to produce a batter which, when discharged from the mixer, acts as an oxidising agent to bleach and improve the other half of the floor in a normal dough-kneading machine.

The machine prepares the batter which requires violent agitation at very high speeds to make possible the process of utilising the oxygen of the atmosphere. This agitation is achieved by two statically balanced blades, the completion of the process being determined by electrical reading.

For the past eighteen months bread has been produced commercially on these machines by Beatties Bakeries of Glasgow — the largest bakers in Scotland—where a substantial proportion of their bread is made by the "aeration process." In their new factory at Dundee, the whole of their bread production is made this way without any chemical improvers or bleachers.

The Post-war Loaf Conference held in 1945 agreed that it was essential that some means of bleaching and improving was necessary to make use of the wheat available. With the advent of the aerating method these requirements are achieved by accelerating and controlling the natural process which took place with "aged" flour before the era of chemical improvers and bleachers.

It was realised that if this revolutionary discovery were to become a commercial proposition, the mechanical process of achieving the same results as natural "ageing" would have to be accelerated sufficiently to produce the vital mix in a matter of minutes. Mortons had to build a machine which could handle that part of the process with which existing equipment was unable to cope.

Motive power is supplied by a 60 h.p. Brush electric motor operating through a gear box to a chain drive which in turn drives helical gears on both beaters. The container of the mixer is of special shape to facilitate discharge of the batter and is jacketed for temperature control which is vital to the mix. All safety guards are electrically interlocked during operation.

The dimensions are: weight 5½ tons; height 7 ft. 2 in.; overall length 10 ft. 10 in.

The one-sack (280 lb. of flour) machine is not designed for doughing, but is capable of feeding a number of the orthodox types of dough-kneaders. The aeration process demands great accuracy in proportions of flour and water as well as a rapid and automatic handling of each charge. Special flour handling and weighing plant and an automatic tempering and measuring tank have been arranged so that it is possible for one operator to control the entire process from the same platform, with the exception of discharging the batter into the dough mixing pans.

Small bakeries have been catered for with an extra heavy vertical mixer incorporating special features. In addition to beaters necessary for the aeration process, standard equipment is available. This machine will handle up to quarter sack capacity and will also complete the doughing without removing the batter from the pan.

Lighting for the Coronation

A complete range of equipment for illuminated Coronation displays is available from Crompton Parkinson, who are also able to undertake the design of comprehensive schemes for interiors—public halls, clubs, shop windows; exteriors—buildings, streets, promenades, parks; and flood lighting.

Eggs from Orkney

The Orkney egg and poultry industry has made a remarkable recovery from the damage caused by the January 1952 gales, a throughput of some 53 million eggs being reported compared with the normal 60 million recorded in 1950 and again in 1951. In view of gale damage and the loss of 86,000 hens, this is an impressive figure.

Visit to South Africa

Following his visit in January, 1951, Mr. J. Arthur Reavell, M.I.Mech.E., M.I.Chem.E., F.Inst.F., F.I.M., chairman of the Kestner Evaporator and Engineering Co., is now making a further three months' visit to the Union of South Africa and Southern Rhodesia.

During the course of his stay, Mr. Reavell will be visiting factories in the process industries where Kestner plants have been installed, as well as discussing new projects with the leaders of the Union's chemical, food, and allied industries.

Kestner (S.A.) (Pty.) have recently moved to new premises at Argent House, Loveday Street South, Johannesburg.

BOOKLETS RECEIVED

A survey of the activities of the Watford Chemical Co. and their associate company, the Spicer Food Co., is contained in the first edition of *The Molecule*, their new house journal.

*

The aims and services of the Food Machinery Association are set forth in a recently published booklet available without charge on application to the Association.

*

Sales and technical data on the new Prestcold fish cabinet are contained in two recently published bulletins.

APPOINTMENTS

Mr. P. K. W. Greggains has been appointed chairman of Reads of Liverpool in succession to the late Mr. E. B. Read.

*

Mr. E. V. Roberts has joined the board of Van den Berghs and Jurgens (Sales) and has been appointed advertisement director.

*

Mr. C. M. Langley, a nephew of Mr. F. A. Langley, the founder of Stelcon (Industrial Floors), has joined the Board of the company.

*

Mr. Derek Francis, A.M.I.Mech.E., has been appointed manager of Norman Engineering Company's Northern Office which they have just opened at 32, Deansgate, Manchester, 3.

*

Cinema-Television have announced the appointment of Parkes Utilities, 28, Watling Street, London, E.C.4, as sales agents in the Southern Counties for their Cintel range of industrial electronic metal detecting equipment.

*

Mr. J. A. Cook, until recently chief engineer of Maconochie Foods, is now working in association with Charles E. Douglas and Co. in a consulting and advisory capacity regarding plant and equipment for the canning and food processing industries.

*

Mr. J. D. Buxton, general works manager of the Stork Margarine Works, Bromborough, Cheshire, has joined the board of Van den Berghs and Jurgens.

Mr. Buxton, who has been at the Bromborough works since 1947, started his career with Lever Brothers, Port Sunlight, and worked in their laboratory and research and central technical department. In 1934 he was appointed assistant works manager of the company's hardening plant and remained there until 1940, when he became general works manager of the war-time Ministry of Food hardening plant at Dowlais in South Wales. When the plant closed down in 1946 Mr. Buxton went for a short while to Malaya to explore the potentialities of edible oil factories in that part of the world.

*

Mr. H. H. Harper, A.M.Brit.I.R.E., has been appointed area sales representative of Evershed and Vignoles for S. Wales and S.W. England. He has been associated with the electronic and light current industries since 1934, and joined the company in 1948 as a general technical sales representative.

*

Mr. P. Arthur Wells, M.A., M.Sc., F.C.S., F.Inst.P., who has been deputy secretary and secretary-designate since April 1, 1951, has assumed the secretaryship of the Royal Sanitary Institute. He also takes office as secretary of the Royal Sanitary Institute and Sanitary Inspectors Examination Joint Board and of the National Nursery Examination Board.

RETIREMENT

Miss Dorothy Cadbury, a managing director of Cadbury Bros., has retired from Bournville.

She is the elder daughter of Mr. Barrow Cadbury and the late Mrs. (Dame Geraldine) Barrow Cadbury; grand-daughter of Richard Cadbury, one of the co-founders of Bournville; and great-grand-daughter of John Cadbury, founder of the business.

COMPANY NEWS

At a Board Meeting held on December 12, the directors of Allied Bakeries considered the payment of a dividend in respect of the 52 weeks ending March 28, 1953, and have declared an interim dividend on the Ordinary share capital of 10 per cent., less income tax.

*

At the fifteenth annual general meeting of J. H. Fenner and Co., it was recommended that a dividend of 3½ per cent., less tax, be paid on the Preference shares and that there be a payment of a dividend on the Ordinary shares (less tax) amounting to £16,406.

*

At a recent Board Meeting, the Directors of Foster Clark decided to recommend to Ordinary Stockholders a final dividend of 1s. per 10s. unit (10 per cent.), less tax, making a total dividend of 1s. 3d. per 10s. unit (12½ per cent.), less tax, for the year ended September 30, 1952.

OBITER DICTA

● Today, to the English, life without tea would be unthinkable.—*Eric Wainwright, "Daily Mirror."*

● The ideal grocer is masculine, sincere, healthy, and possessed of a complete knowledge of his job.—*Mr. F. Leitch, lecturer to Dundee grocery students.*

● The English public is too inarticulate—if they made more fuss they would get better food and service.—*M. Andre L. Simon, president, Wine and Food Society.*

● Duodenal and stomach ulcers are more likely to be due to something wrong with our diet than to any increase in the tension of living.—*Prof. G. F. W. Illingworth.*

● The secret of my sound health is unsound abuse of the good things of the table and the regular practice of no sports whatever.—*M. Curnonsky, "Prince of Gastronomes."*

● Housewives go chasing expensive soles—nearly five times the price—and give herrings, the most nourishing and cheapest of the lot, the go-by.—*A Manchester trader.*

● I believe that there is an unlimited demand for apples at the right price. A small boy can always eat a lot of apples.—*Mr. Thomas Neame, chairman of governors, East Malling Research Station.*

● When is the Ministry of Food going to do something about the rotten bacon we have been eating for years? It both smells and tastes of fish.—*Mr. P. Steel, in a letter to the "News Chronicle."*

● I have come to realise that it is not enough merely to fill oneself with calories, vitamins, and proteins. An important element in the assimilation of food is the circumstances in which that process is begun.—*Dr. Charles Hill, M.P.*

● I could refuse the extra meat that many of my wage-earning neighbours cannot buy, but to do so would merely bring nearer the now imminent day when meat comes off the ration and is available in plenty in the pot-houses and pot-bellies of the City.—*"Pensioner," in a letter to "The Tribune."*

World Food News

"Cut-Up" Chicken from Ireland

A pilot scheme to put "cut-up" chicken on the British market is being planned by Eggsport of Dublin.

In the initial stages, the quantities available will be very small, amounting to only 5 per cent. of the total chickens exported to this country. So determined are the company to popularise this new pack that, for the duration of the scheme, they intend to subsidise the venture so that retailers will be able to sell the product at a price considerably below that for untrussed, uneviscerated birds.

Only shops equipped with deep-freeze cabinets will be allowed to sell the "cut-up" poultry.

Retirement

Mr. Hal W. Johnston, executive vice-president and director of sales of Stecher-Traung Lithograph Corporation, Rochester and San Francisco, is retiring after 35 years with the company. He has served as a director of the (U.S.) Packaging Institute; a director, vice-president, and president of the (U.S.) Label Manufacturers National Association; a regional and director-at-large for National Sales Executives, Inc., and was one of the team of 11 who visited Britain at the invitation of Mr. Paul G. Hoffman in 1950 on the first "Operation Enterprise" for a series of conferences with British manufacturers to encourage them to increase their sales in the United States. He has been vice-president, and is now a director and president of the Canning Machinery and Supplies Association. He is well known to the canned foods trade in both London and Liverpool.

N.Z. Blue Vein Cheese

Trial consignments of New Zealand blue vein cheese have been placed on sale in Wellington.

The cheese is being produced at the rate of 200 six-pound cheeses a week at the Eltham factory of the New Zealand Rennet Company, which is owned by the co-operative cheese companies of New Zealand. Over 100 tons a year will be made when in full production, but for the time being the demand in local markets only is being tested.

Retailers in Wellington are enthusiastic about the cheese. It sells at 4s. 10d. a pound, which is roughly half the cost of imported Danish blue vein cheese. In texture and flavour the New Zealand cheese is considered at least as good as the imported blue vein varieties, though lacking the intensity and sharpness of flavour of the gorgonzola types.

In its first shipments, the Eltham factory has used a thin coating of wax to protect the cheese rind. The question of using the traditional foil wrapping of high-grade cheese has been discussed but deferred for the present.

Marine Biology in Portugal

Fisheries research in Portugal has been carried on since 1919 by a Marine Biological Station (*Estaçao de Biologia Maritima*) in co-operation with the Vasco da Gama Aquarium under the name *Aquário Vasco da Gama—Estaçao de Biologia Maritima*, in Lisbon.

To enlarge its technical and scientific programme, the Portuguese Government recently separated it from the Aquarium, so that it now operates as an independent institution called Institute of Marine Biology (*Instituto de Biologia Maritima*) with its own headquarters in Lisbon. The Institute is directed by an Administrative Council whose President is also the Director of Investigations. There are two permanent posts for investigators. Although the Vasco da Gama Aquarium is now an independent educational organisation, it plans to maintain close technical collaboration with the Institute, and is being modernised.

Portugal, a traditional fishing country, is rich in fisheries resources, fisheries being second only to agriculture in the country's economy.

The newly organised Institute will be an important factor in the further scientific development of the Portuguese fisheries resources.

Sugar Executive's Tour

Mr. Percy T. Wheen, an executive officer in the sugar marketing section of the Colonial Sugar Refining Co., Australia's main sugar organisation, is making a three months' business visit to the United Kingdom, the United States of America, Canada, and Hawaii.

The main purposes of his trip are to attend talks in London with the sugar exporting countries of the British Commonwealth, a conference at the Ministry of Food, and the meeting of the International Sugar Council; to have discussions in Ottawa with the Canadian authorities about the marketing of surplus Australian raw sugar in North America; and to inspect bulk raw sugar installations in San Francisco and Hawaii.

New Whale-catching Device

Twenty-five Norwegian whaling boats are to be fitted with a new device for catching whales this winter. Known as a "whale scarer," it was invented by Arne Skontorp and is intended to make the whales rise to the surface by means of ultra-sound waves. It is fitted in a metal dome beneath the catcher boat, the ultra-sound waves being emitted in three directions.

Cold Storage in Amsterdam

A new cold storage warehouse is being built in Amsterdam by N.V. Blauwhoedenveem - Vriesseveem on the site of a previous one destroyed by fire in 1948. The warehouse, which will be constructed entirely of concrete, will have a refrigerated space of nearly 25,000 cubic yards and an ordinary warehouse space of nearly 12,000 cubic yards. It will be possible to store about 6,000 tons of frozen goods and about 3,000 tons of general goods.

Cake from Ireland

For the first nine months of 1952, Irish cake manufacturers exported 96,000 cwt. of 5 lb. sultana slab, 93,000 cwt. of it going to Britain and the balance to Belgium, U.S.A., and Canada, representing over £1,023,000 worth of cake.

It is only lately that this lucrative market has become available to Irish cake manufacturers whose shipments average 10,000 cwt. for the first months of the year, but climb to 40,000 cwt. for the months of November and December when cake takes its place beside turkeys and hams as one of Ireland's biggest Christmas exports.

Hitherto Australia used to export the most cake to Britain, but Ireland, providing a product at 4d. a lb. cheaper and delivering it almost fresh from the oven, has practically ousted the Australians, whose product is often at sea three months before delivery.

Firms are anxious that a standard of quality should be set by the Government in order to prevent the possibility of any manufacturer ruining the high reputation in which the Irish cakes are now held by exporting products of an inferior standard.

Attempts are being made to export to other countries, Belgium being the latest addition. Exports to Canada and the U.S.A. are small at present, but the Irish foothold is firm and capable of being expanded into a valuable dollar earner.

An Italian Delicacy

Chocolate-coated figs are now being made by an Italian firm. The processing operations comprise the removal of the stem, the insertion of a peeled and toasted almond, and baking for about one hour; the figs are then given a generous coating of melted chocolate and allowed to cool.

Italian Grades of Olive Oil

It has been stated that the following designations are now current in the Italian edible olive oil trade:

(*a*) *Superfine virgin olive oil.*—An oil isolated mechanically from olives, not subjected to chemical treatment but only to washing, filtration, and sedimentation; acid content (as oleic) not more than 1·2 per cent.

(*b*) *Fine olive oil.*—As (*a*) except that the maximum acidity is 2·5 per cent.

(*c*) *Olive oil.*—As above but with maximum acidity of 4 per cent.

(*d*) *Rectified olive oil grade A.*—The product obtained from clear olive oil or from washed oil which has been rendered edible by chemical treatment and which is free from traces of the chemical treating agents.

(*e*) *Rectified olive oil grade B.*—The product obtained by solvent extraction of olive husks, made edible by chemical treatments, and not containing traces of the solvents or other chemical agents employed.

Unilever in Malaya and Turkey

General Sir Gerald Templer, the High Commissioner and Commander in Chief of the Federation of Malaya, officially opened a new Unilever factory in Malaya on December 20.

Situated on the outskirts of Kuala Lumpur, the factory will produce soaps and glycerine, edible oils, fats, and margarine. The total output of finished products will be between 15,000 and 20,000 tons, utilising to the maximum raw materials indigenous to Malaya. Of these raw materials required the Federation can supply probably 90 per cent. of the total in the form of palm oil and coconut oil.

A factory of Unilever Is-Turk Limited Sirketi, a company which was established in 1950 in collaboration with the Is-Bank, Turkey, was officially opened by the President of the Turkish Republic, Celal Bayar, on January 5, 1953. The chairman of the Board of Unilever in Rotterdam, Mr. P. Rykens, and Mr. S. J. van den Bergh, a member of the Board, attended the opening ceremony.

Situated in Bakirkoy, near Istanbul, the factory will manufacture margarine and other edible fats.

Bush's New Canadian Factory

MODEL LAYOUT INCREASES PRODUCTIVITY

The new headquarters of W. J. Bush and Co. (Canada) is nearing completion at 312, St. Patrick Street, Ville LaSalle, Quebec, and the transfer of operations from their existing premises on St. Helen Street, Montreal, is now being made.

The building houses offices, laboratories, warehouse, and manufacturing facilities and covers an area of approximately 50,000 square feet, the total area of the site on which it stands being nearly six acres.

The present products of the Canadian company include flavouring essences and extracts, essential oils, and oleo resins for the food, beverage, ice cream, pharmaceutical, and toilet goods industries.

The factory area is divided into seven main parts:

1. Main storage, shipping, and receiving.
2. Distillation and extraction room.
3. Essential oils department.
4. Essence department.
5. Dry goods processing department.
6. Packing room.
7. Power house.

Raw materials are received through one of two large truck entrances situated on the west side of the building and are stored in specific "islands" in the main warehouse area, according to the nature of the goods and their ultimate departmental destinations. The latter fan out on three sides, each having direct access from the warehouse, and being situated on the outer edges of the building. Space is also allocated for the storage of finished and packed goods in close proximity to the shipping dock. Clearly defined traffic lanes serve these "islands" and accommodate lift trucks for mechanical handling and utilisation of full cubic capacity.

The distillation and extraction room on the east side is serviced by high and low pressure steam and vacuum, as well as the usual other service. The power house providing these facilities is adjoining so that radiation losses are reduced to a minimum.

The remaining manufacturing areas are located on the south side of the building around the warehouse section. They are separate entities and the requirements demand that each one should be isolated from the other to the maximum extent possible. They are, therefore, surrounded by glass partitions which permit the maximum transmission of natural light into all departments, especially in the warehouse.

The reinforced concrete factory floor is finished with a metallic hardener and is dust-proof. This latter feature also makes for cleanliness, while the former ensures prolonged wear and reduced maintenance. Economy in maintenance costs has been another factor which has received foremost consideration in the entire project.

The shipping dock leads out through the second trucking door. Both receiving and shipping docks are ramped down so that the truck tail-boards become level with the factory floor. By this means a uniform level was achieved throughout the entire area thus obviating any obstruction to the movement of materials by raised loading docks.

A third trucking door leads into a commodious garage, sealed off from the rest of the building by concrete block walls. Provision has also been made for a refrigerated room in the warehouse for the cold storage of fruit juices and other raw materials.

A unique feature is the elevation of the plant superintendent's office above floor level. Closed in by glass panels on all sides, it affords a complete view looking down on the entire operations in any direction thus ensuring continuous supervisory control over all departments.

The lower front portion of the building accommodates at one end two research laboratories and an analytical laboratory. Adjoining the research laboratories is an experimental kitchen and bottling plant where new products are tried out in the finished articles before being introduced to the consuming trades. There are also the technical controller's office, a control room where approved standards of every ingredient used by the company are maintained, and a large technical library. The whole of this specialised area is self-contained and has direct access to the manufacturing departments.

Denmark Abolishes Rationing

The rationing of coffee and sugar was abolished in Denmark from October last, so that all food rationing has now come to an end. Fuel is the only commodity still rationed in the consumer goods group.

The reason why sugar rationing was abolished, in spite of the fact that the sugar crop in 1952 is expected to be 20 per cent. smaller than in 1951, is partly owing to the improved balance of payments, and partly owing to the decreasing importance of sugar as an export commodity.

Coincident with the abolition of rationing, the sugar price rose by 20 öre per kilo; the increase in price is hardly sufficient to cover the increased production costs so that a small price subsidy will be granted from the sugar fund.

OVERSEAS ENQUIRIES

Small Freezing Plants

The Sicilian Regional Government is giving considerable financial assistance to the Sicilian fishing industry for the renewal of the fishing fleet.

The Assessor of Fishing and Sea Transport would like to hear from United Kingdom manufacturers of aluminium insulated material, trays for storing fish, and small freezing plants which can be installed on fishing craft up to 80 tons.

Interested United Kingdom manufacturers are invited to send information regarding their equipment to H.M. Consul, British Consulate, Palermo, Sicily, for onward transmission to the Assessor.

*

Food and Chemical Plant

The Archer-Daniels Company of Minneapolis 2, Minnesota, require meal grinders; solvent extraction process equipment; flour mill packaging equipment; coal tar derivatives maleic-anhydride and pentaerythritol; filter aid materials, for filtration of vegetable oils; diatomaceous earth; bleaching medium clays (such as the Tonsil Earth from Germany which they use at present).

United Kingdom firms who are able to offer suitable equipment and materials should send full details by air mail to Mr. C. A. Vince, Chief Purchasing Agent of the company. Prices should be quoted in dollars c.i.f. New York and c.i.f. Milwaukee or Minneapolis for all heavy items. Brochures, photographs, and full specifications should be sent wherever possible.

*

Bakery Equipment

The Singapore Cold Storage Co., Ltd., Empire Dock, Singapore, 2, are planning to mechanise gradually the whole of their principal bakery in Singapore. They would be interested to hear from United Kingdom firms who can supply equipment for a mechanised bakery including machinery for wrapping bread.

United Kingdom firms who are able to offer suitable equipment should send details of such equipment with prices, trade literature, and delivery dates direct to the company.

*

Jams, Jellies, and Marmalades

The Scandia Commercial Company, of 27, Drumm Street, San Francisco 11, California, are interested in making a direct contact with a United Kingdom manufacturer of jams, jellies, and marmalades.

Established in 1926, the Scandia Commercial Company are wholesale distributors of food products, principally in North California, but also in Oregon and Nevada.

These products are subject to the United States Food and Drugs Administration Regulations.

United Kingdom manufacturers who are interested in this enquiry should communicate direct, by air mail, with the Scandia Commercial Company, quoting, if possible, prices c.i.f. West Coast Port, and they should send literature and samples of the goods they are offering.

Hanover Spring Fairs, 1953

A wide variety of food and beverages and of food manufacturing machinery is to be displayed at the Hanover Spring Fairs this year. The Light Industries Fair (food and beverages) is to be held from March 1 to 5 and the Heavy Industries Fair (machinery) will take place from April 24 to May 5.

A staff of interpreters is available free of charge to buyers and conducted tours will be arranged. Travel and *bureaux de change* offices, as well as buyers' rest rooms and restaurants will be within the Fair Grounds.

Tickets to the Fair will entitle visitors to a free catalogue on arrival in Hanover, free visa from the German Consulate in Britain, and also reductions in railway fares on the Continent.

In view of the great number of visitors expected, it is advisable that room reservation should be made as early as possible. The official agents for the Fairs in this country, Schenkers Ltd., 27 Chancery Lane, London, W.C.2, will be pleased to assist any prospective visitors in obtaining accommodation in Hanover.

Canned Food in Ireland

The development of canned food production in Ireland is gaining rapid momentum because of the enterprise shown in the past few years by Irish industrialists.

One example is provided by Canned Products Ltd. of Dublin, who first started production in 1950. In the past 18 months this firm have produced over 9,500,000 lb. of finished processed foods. Apart from their canned products, they export frozen manufacturing beef to America. Their agricultural produce (peas, potatoes, carrots, strawberries, etc.) are grown under contract with farms within a radius of 20 miles of Dublin, an arrangement which reduces transport costs.

Apart from their factory and offices in Dublin, the company have acquired the Plunkett Estate at Portmarnock, comprising about 300 acres of land, where the intention is to grow some of their agricultural produce, as well as utilising other parts of the land for cattle grazing.

The cattle for canning and freezing are bought at markets and fairs throughout the country and killed at the Corporation of Dublin abattoir. After killing, the beef, cut into quarters, is brought to the factory where special cuts are packed in wax paper and wooden cases for the American trade before being placed in deep freezing chambers operating at −25°F. Other beef, stripped of bone and fats, is placed in mincing machines from which it is fed by vacuum fillers into prepared cans.

Among other products are strawberries and raspberries specially prepared for diabetics.

Most Irish canning firms have built up over the last two years a big export business with Britain and America, which has enabled them to expand production to a level where it has become possible to supply the Irish consumer at a lower price while maintaining the quality.

Irish food industrial firms have sometimes been accused of confining themselves to safe lines in the protected home market, but this no longer holds good. The canned food manufacturers particularly have reached a degree of efficiency at which big exports are possible, although some are still handicapped by out-of-date methods and poor equipment.

Congress on Food Distribution

The Second International Congress on Food Distribution is to be held in Ostend from June 22 to 26. The formal opening session will take place on the afternoon of June 22, and will be followed by a reception during which the delegates of the various participating countries will be able to establish or renew contacts with their colleagues from other countries.

The work of the Congress will be divided among three study groups which will examine the techniques and economic problems of the distribution of food products on the following levels:

1. Collaboration between producers and distributors.
2. Organisation and functioning of distributing enterprises.
3. Collaboration between distributors and consumers, especially in the retail trade.

During the Congress, delegates will have an opportunity of visiting canning and cold storage plants and technical and documentary films will be shown during some of the sessions.

Change of Address

The Director of the International Institute of Refrigeration states that the new address of the Central Office is 177, Boulevard Malesherbes, Paris, XVII° (Tel.: CARnot 32-35).

News from the Ministries

Supplies of Greek Currants

Supplies of currants from Greece at lower prices than last year are expected to arrive in Britain shortly. The Minister of Food has bought 24,730 tons of currants of the 1952 crop from Greece at an average price of £75 a ton. This is £5 a ton cheaper than the price paid for currants in 1951.

Responsibility for Slaughtering

On January 1, 1953, the Ministry of Food became the central Department responsible in England and Wales for most of the statutory functions relating to slaughterhouses and knackers' yards. This is in accordance with the statement on Ministerial responsibility for the slaughter of animals made by the Prime Minister in the House of Commons on July 21, 1952.

An Order in Council has been made which transfers from the Minister of Housing and Local Government to the Minister of Food all statutory functions relating to slaughterhouses and knackers' yards, except the following:

1. The confirmation of Compulsory Purchase Orders for the provision of public slaughterhouses. This remains the responsibility of the Minister of Housing and Local Government.
2. The approval of charges for the use of public slaughterhouses. This function is transferred by the Order in Council from the Home Secretary to the Ministry of Housing and Local Government.

Local authorities will continue to be responsible for the execution and enforcement of the legislation to which the Order in Council relates.

The transfer of these functions applies only to England and Wales; the position in Scotland is unchanged.

Bread Subsidy in England and Wales

The final rate of subsidy payable in England and Wales, based on costings in March to April, 1952, is 14s. per sack from March 30, 1952, to May 10, 1952.

From May 11, 1952, the subsidy is increased by 2s. 2d. per sack to take account of the changes in the prices of flour and bread on March 16, 1952. This brings the subsidy up to 16s. 2d. per sack. The rate is further increased from June 15, 1952, by 9d. per sack to take account of a wages award to bakery operatives, thus making the subsidy 16s. 11d. per sack. This is the final rate up to September 27, 1952. Thereafter, until further notice, 16s. 11d. will continue to be paid as a provisional rate pending the next review based on costings in September, 1952.

Provision has been made on Subsidy Claim Forms B.S. 85A and 86 for a payment on account of 3s. per sack in respect of the above increases during the period March 30, 1952, to November 29, 1952.

Claim Form B.S. 87 will provide for payment at the provisional rate of 16s. 11d. per sack for the eight weeks from November 30, 1952, to January 24, 1953, and also for other supplementary payments.

Decontrol of Bananas

The importation of bananas from all sterling area countries, except Jamaica and British Honduras, has now been returned to the trade. Imports of bananas by the Ministry of Food from British Honduras and all non-sterling countries will cease early in 1953. Arrangements for the importation of Jamaican bananas await the decision of the Jamaican Government.

An open general licence came into force on December 29, 1952, allowing the importation of bananas consigned from and originating in the sterling area without the need to apply to the Import Licensing Branch of the Board of Trade for a separate licence.

No commitments should be made by private traders for the importation of bananas from non-sterling countries before the import licensing arrangements have been announced early in 1953.

Standards for Suet

A standard has been prescribed for the first time for block suet together with a revised standard for shredded suet. The standards require that the fat contained in both types of suet shall be refined beef fat only.

The standards are prescribed in the Food Standards (Suet) Order, 1952, which came into force on December 28, 1952, for all sales and revokes and replaces the Food Standards (Shredded Suet) Order, 1944.

Details of the standards are as follows:

1. Block suet must (*a*) consist of rendered beef suet; (*b*) be free from fibrous tissue; and (*c*) contain not less than 99 per cent. by weight of beef fat.
2. Shredded suet must (*a*) consist of rendered beef suet with farinaceous material; (*b*) be free from fibrous tissue; (*c*) be shredded or flaked, etc.; and (*d*) contain 83 per cent. by weight of beef fat. Hitherto the fat content has been 83 per cent. but the type of fat has not been specified.

In making these standards, the Minister of Food has had regard to the recommendations of the Food Standards Committee and to the representations which were received after the Committee's proposals were published in February, 1952.

Feedingstuffs Prices

The Feedingstuffs (Prices) Order, 1952, has been amended with effect from December 7, 1952. The principal changes are as follows:

1. Distributing dealers' margins on most feedingstuffs are increased by 2s. 6d. per ton with proportional increases in retailers' margins. This is because of the higher costs of distribution. The maximum retail prices are unchanged.
2. The additional charges permitted for sales of animal feedingstuffs in small lots and for handling feedingstuffs in and out of store are increased.
3. The table of maximum prices for sales to consumers of quantities of under one cwt. has been recalculated.
4. The basic price per ton net weight of National Poultry Balancer Meal is increased by 2s. 6d. a ton. The maximum retail prices are unchanged.
5. The provision relating to sack charges on sales by net weight in returnable sacks has been brought into line with a similar provision in the Wheat (Great Britain) Order, 1951. As a result, subject to certain conditions, sellers may make a reasonable charge for returnable sacks.

Weights and Measures Legislation

It was recently announced in the House of Commons by the President of the Board of Trade that he was arranging consultations about the recommendations of the Committee on Weights and Measures Legislation with the trading, local authority, and other interests concerned. He said that on account of the wide variety of the recommendations and the extensive nature of the consultations, legislation would not be introduced for some time.

Consultations are now beginning and the Board would be glad to receive comments on any of the Committee's recommendations from interested parties.

Any persons or organisations intending to submit comments should give the Board notice of their intention to do so as soon as possible indicating the recommendations on which they propose to comment. All correspondence should be addressed to:

The Controller, Standards Department,
Board of Trade,
26, Chapter Street,
London, S.W.1.

Imported Butter

Imported butter will require to be marked with an indication of origin as from May 24, 1953, when the Marking Order applicable to this product, made under the Merchandise Marks Act, 1926, again becomes operative.

Australian Dried Fruits

Larger supplies of dried fruit at lower prices are expected from Australia in 1953. While it is too early to give an accurate forecast of the size of the crop, the prospects are encouraging and it is estimated, subject to no adverse climatic conditions during the harvesting, that shipments to the United Kingdom will be about 40,000 tons.

The prices to be paid are £94 sterling per long ton f.o.b. for sultanas and raisins and £77 10s. sterling per long ton f.o.b. for currants with a premium for a limited quantity of the best grades.

Shipments will not begin to arrive in this country before June, 1953.

The quantity of dried fruit received from the Australian 1952 crop was about 30,000 tons. The prices paid were £98 10s. per long ton f.o.b. for sultanas and raisins and £80 per long ton f.o.b. for currants.

Arrangements for Ware Potatoes

The Ware Potatoes (Amendment No. 2) Order, 1952, prescribes prices for ware potatoes of the 1952 crop from December 11 until the end of the season and makes the usual seasonal adjustments in marketing arrangements.

The Order gives effect to the growers', fixed prices. The average increase for the 1952 season of 10s. 6d. a ton awarded at Agricultural Price Reviews to cover higher costs of production is implemented by increasing last season's growers' prices by 12s. 6d. a ton during March and from June 18 to July 8, 1953, and by 10s. per ton during the rest of the season.

The wholesale prices reflect the increased growers' prices and have been adjusted to take account on the one hand of recent reductions in the cost of sacks and on the other of the increase from December 1 of 5 per cent. in road and rail freight rates.

The maximum retail prices take account of the higher growers' and wholesale prices and, as usual, prices vary according to district and to grade of potato.

The amending Order cancels the restrictions which were placed on the marketing of certain of the longer keeping varieties of potatoes and makes it clear that ware potatoes grown in specified Eastern Counties may not be transported to South Wales or the South Western Counties of England.

Canned Fruit from Australia

Not less than 60 per cent. of the total exports of canned apricots, peaches, pears, two fruits (*i.e.* mixtures of two of these fruits) and pineapple is to be bought by the Ministry of Food from Australia in 1953.

In 1952 the quantity received amounted to about 1,745,000 cases containing some 45 million tins and was double the quantity received the previous year. It is hoped that supplies in 1953 will rival those received in 1952.

Meat Inspection Methods

A memorandum has been issued by the Ministry of Food giving methods and criteria of meat inspection which, it is recommended, should be adopted forthwith. Divided into four parts, the memorandum gives general guidance for authorised officers, occupiers of slaughterhouses, and slaughtermen, *ante-mortem* inspection, *post-mortem* inspection, and action to be taken when evidence of disease is found.

Most Meat Products Decontrolled

The manufacture and sale of all meat products, except uncooked beef and pork sausages, sausage meat, and canned corned meat, have now been freed from control. The removal of restrictions will enable the trade to make and sell a wider range of meat products to suit all tastes and purses.

Before being freed from control, most meat products were freely available, many of them selling at less than the prescribed maximum prices. There is no reason to expect either increases of price or shortages following the removal of controls.

The products must still comply with the requirements of the Labelling of Food Order, 1950, in that the labels must bear the name and address of the packer or labeller, the description of the product, and list of the ingredients.

Starch and Dextrine

The price of British made rice powdered starch, British made rice crystal starch, national blended starch, and standard maize combination starch was decontrolled on December 28, 1952. As from that date the maximum prices in respect of these starches, appearing on the official price lists issued to dealers and users, were cancelled.

Furthermore, from the same date, the Ministry of Food ceased to prescribe any formulae for blending and the official titles of national blended starch and standard maize combination starch were discontinued. Should manufacturers and blenders wish to continue to blend to the old formulae and to maintain the old titles they may do so, with or without the addition of a proprietary name, but the names "National Blended Starch" and "Standard Maize Combination Starch," if used, will cease to carry any guarantee of content.

The existing licensing arrangements for purchase, sale, and usage of starches remain unchanged.

Enquiries regarding prices for starches and dextrine should be addressed to Starch Finance Division, Ministry of Food, Great Westminster House, Horseferry Road, London, S.W.1.

Glucose for Food Manufacturers

Larger supplies of glucose are to be made available to certain food manufacturing industries.

For the period from January 25 to May 16, 1953, increased allocations will be made to those food manufacturing industries whose supplies were reduced at the end of 1951. The allocations of most of these industries will then be at the level at which they stood before the reductions took effect. The food manufacturing industries concerned are: chocolate and sugar confectionery, biscuits, flour confectionery, bakers' sundries, preserves, table jellies, medicinal beverages, pickles and sauces, candied peel and glacé cherries, and soluble coffee powder.

Details of the increases for individual industries will be notified to the relevant Trade Associations as soon as possible.

The level of allocations after May 16 will be determined in the light of the supply position at the time.

U.K. Biscuit Production

Figures issued by the Ministry of Food giving the estimated production of biscuits in the United Kingdom are based upon four-weekly returns of production from the large manufacturers. They also include estimates of the production of (*a*) smaller manufacturers making 12 tons or less per annum, who are not required to make returns and (*b*) biscuits from unrationed materials. The details are as follows:

	Thousand tons	
	Jan.-Dec., 1951	*Jan.-June, 1952*
Chocolate coated (fully) ..	62·6	37·0
Chocolate coated (partially) ..	11·0	8·6
Sweet and semi-sweet	257·1	123·5
Rusks	3·3	1·7
Plain	63·0	32·1
Crispbread ..	7·6	4·2
Matzos	0·9	0·5
Wafers and cones	6·6	3·5
Oatcakes ..	3·0	1·4
Total ..	415·1	212·5

Information and Advice

This Service is available for subscribers to FOOD MANUFACTURE. Postal replies will be sent if a stamped, addressed envelope is enclosed with enquiries.

Chocolate Couverture

B.6112. *Could you please give me a formula and information on the manufacturing process of chocolate couverture?* (Ireland.)

The following is a formula for a plain couverture which can be used as a basis for trial:

Arriba cacao nibs	25 lb.
Caracas cacao nibs	25 ,,
Trinidad cacao nibs ...	22 ,,
Cacao butter to be added at conching stage	30 ,,
Finely ground sugar ...	100 ,,
Cacao butter	14 ,,
Lecithin	0·3 per cent. of mass
Vanillin	¼ oz.

The Arriba and Caracas beans are roasted at 275°F.; the Trinidad at 290°F. The nibs are blended and ground in the liquor mill, then mixed thoroughly with the sugar and 14 lb. cacao butter in the mixer. The mass is refined and transferred to a mixing kettle, the balance of cacao butter and lecithin is added, and mixed and placed in pots of the conche; processing takes 72 hours at 160°F. The vanillin is added near the end of the process. The chocolate is tested for fineness on a micro-projector before discharging.

Potato Sausage

B.6160. *Will you give us a formula for a sausage containing potato?* (Glos.)

The following is a formula as a basis for trial:

Lean beef	6 lb.
Lean pork	3 ,,
Back fat	3 ,,
Boiled potatoes	7 ,,
Onion	1 ,,
Salt	4½ oz.
Ground white pepper	1 ,,
Ground mace	1 ,,
Ground ginger	½ ,,
Ground sage	¼ ,,

The potatoes are cleaned and boiled, allowed to cool and passed through a mincer with the lean beef and pork, then transferred to a bowl chopper, followed by the addition of the seasoning, onion, and cubed back fat. The mix, which should not be chopped too finely, is filled into narrow hog casings and linked about 10 to the pound. If the sausages are to be kept for any period, dried onion or onion essence should be used as a substitute for the fresh onion.

Manufacture of Table Jellies

B.6182. *Could you please let us have a formula for the manufacture of table jellies?* (E. Africa.)

It is customary to produce pint jelly tablets weighing about 5 oz.—this weight providing a reasonable amount of sugar for sweetening purposes—and since approximately 0·55 to 0·65 oz. of gelatine is required per tablet, it follows that the proportion of gelatine in the mixture must be in the neighbourhood of 11 per cent. In order to provide for good keeping qualities in the finished product, its water content should not exceed 22 per cent., and the proportion of glucose or invert sugar (or both, if both be present) should approximate to 30 per cent.

We suggest the following formula as a basis for trial:

	lb.	
Sugar	44	
Glucose syrup	30	
Citric acid	¾	
Gelatine	11	(approx.)
Colour and essence ...	*q.s.*	
Output	100	

In this case the moisture in the finished jelly will be about 21 per cent.; the exact proportion of gelatine will be regulated by its strength. The use of glucose is probably to be preferred to that of invert sugar, owing to the difficulty of regulating the amount of inversion within the comparatively narrow limits required for good keeping qualities.

It will, of course, be necessary to ensure that the formula conforms to the local legal standards.

Sandwich Biscuit

B.6183. *Could you please let me have a formula for making sandwich biscuits?* (Lincs.)

The following was given as a basis for trial:

	Parts.
Self-raising flour	40
Margarine	20
Castor sugar	10
Eggs	2½
Salt	*q.s.*
Jam	*q.s.*

The margarine is creamed and the sugar and egg added. This mixture is gradually drawn into the flour and salt, and the whole worked until quite smooth. The addition of a little water may be necessary. The dough is rolled out and cut into small rounds, which are baked on a greased tin for 10 minutes. When cool, the biscuits are sandwiched together with a little jam, and sugar is sprinkled on the top.

Information Supplied

The Enquiry Service has dealt with requests for the names of manufacturers and suppliers of plant, machinery, and materials, and also general information as follows:

B.6148. *Boilers.* (S. Africa.)
B.6151. *Sausage casings.* (Yorks.)
B.6154. *Fruit cleaning machines.* (Warwicks.)
B.6157. *Cyprus syrup and carob juice.* (London.)
B.6158. *Grinding and mixing machines.* (Ches.)
B.6159. *Labelling of food.* (Mon.)
B.6162. *Rice flakes.* (London.)
B.6163. *Macaroni and egg noodles.* (Lancs.)
B.6166. *Cacao bean processing plant.* (U.S.A.)
B.6169. *Egg albumen.* (N. Ireland.)
B.6171. *Cream biscuits.* (Lancs.)
B.6172. *Pectin.* (N. Ireland.)
B.6175. *Vacuum packs.* (S. Africa.)
B.6178. *Chocolate enrobing.* (Kent.)
B.6180. *Potato discoloration.* (Berks.)
B.6292. *Sorbitol.* (London.)
B.6296. *Glucose.* (London.)
B.6297. *Synthetic cream.* (Flint.)
B.6298. *Coffee and chicory essence.* (London.)
B.6299. *Piping jelly.* (London.)
B.6300. *Ice cream cones.* (India.)

Recent Patents

683,867. FISADCO, LTD.: Skinning of fish.
683,874. WOOD, W. H.: Fish washing and transporting apparatus.
684,252. FORGROVE MACHINERY CO., LTD., and RUSSELL, A.: Wrapping machines.
684,353. GRAFTON, R. F. O.: Fruit picking devices.
684,509. POWER AND SONS (BOX STRAPPING), LTD., F. A., and CHEESMAN, J. J.: Tying machines for packages and the like.
684,620. EMULSOL CORPORATION: Baking products and shortenings therefor.
684,627. GARNER, J. H.: Machine for transforming shapeless lumps of dough into parallel-sided rolls.
684,757. DISTILLATION PRODUCTS, INC.: Vitamin A derivatives and intermediates and methods of preparing same.
684,795. MILLE, N. J. DE: Machines for peeling potatoes and other vegetables.
685,045. KING, LTD., G. W.: Conveyors.
685,122. HEYERDAHL, E. F.: Method for recovering oil from whales or other sea mammals.
685,127. VITAMINS, LTD.: Manufacture of riboflavin
685,149. MIKROVAERK AKTIESELSKAB: Method of conching chocolate and like masses, and a machine for carrying out this method.
685,380. WEISSE, E.: Vacuum containers for preserved foodstuffs.
685,436. STRUBI, M.: Machines for removing the peel from vegetables or fruit.
685,531. DISTILLERS CO., LTD., and MCCOMBIE, J. T.: Recovery of vitamin B_{12}.
685,667. FARBENFABRIKEN BAYER: Sparingly soluble vitamin B_1 salt and foodstuffs enriched therewith.

Abstract of a Recent Specification

Pudding Powders in Tablet Form

The pudding powders with which the invention is concerned are those of the kind comprising as essential ingredients a mixture of a starchy material, flavouring essence, and sugar but not normally containing oils or fats, all the ingredients being mixed in the raw condition and formed into tablets.

Pudding powders of this kind have been found to possess hardly any or no taste or flavour when kept for some time, although compressed into tablet form. This is because the substances in the essence which impart taste or smell are volatile.

It is an object of the invention to overcome this disadvantage.

For this purpose an edible oil or fat is added to the mixture before the latter is formed into tablets.

In this way a mixture is obtained in which the flavouring essence is fixed, so that the tablets can be preserved for a long time, with only very slight evaporation of the essence.

Puddings prepared from tablets manufactured according to the method of the invention have the desired taste and flavour due to addition of essence to the powder, even if the tablets have been stored for a long time.

Starch or a powder containing starch can be mixed homogeneously, preferably by rubbing, with a mixture of sugar, essence, and one or more fats, oils, fatty or oily matters, or a mixture thereof.

It is preferred to mix the molten fat and/or oil and sugar with a liquid essence which is preferably previously mixed with glycerine, after which starch or a powder containing starch is added to the mixture thus obtained. When molten fat is used, it is desirable to heat the sugar previously, so that the molten fat will not congeal instantly when the sugar is added and a uniform mixture is obtained. Such heating is not sufficient to melt the sugar or change its form.

In the method according to the invention the ingredients are mixed in the raw condition, and this method is not to be confused with the known method for the production of readily soluble culinary products containing sugar, fat, binding media such as starch powder, and flavouring substances, in which a mixture of a melt of invert sugar and a hot melt of drop sugar with binding media is mixed with a mixture of cold fondant sugar and fat.

675,990.. *Gustaaf Adolf Rührup.*

Trade Marks

WINGED LION.—695,364. Colouring matters for food and for mineral waters. **Potter and Clarke, Limited,** 60, 62, and 64, Artillery Lane, London, E.1; Manufacturing Chemists.

PARSONS.—705,043. Meat pastes, sausages, and cooked meats, all for sale in Great Britain. **Edward Parsons and Son, Limited,** The Farmhouse, Irchester Village, Wellingborough, Northamptonshire; Manufacturers.

S.K.B.—705,524. Coffee. **The Kenya Coffee Company, Limited,** Bridge House, London Bridge, London, S.E.1; Manufacturers and Merchants.

PROGRESS.—706,144. Chocolates. **Dowlings Chocolates, Limited,** 5A, Eaton Road, Margate, Kent; Manufacturers.

LOCHWAY.—706,540. Dead poultry, dead rabbits, dead game, eggs, liquid egg, and frozen egg. **William Park,** trading as **Airdrie Egg and Poultry Packing Station,** 94, Carlisle Road, Airdrie, Lanarkshire, and **Lochend Egg and Poultry Packing Station,** Newbridge, Kirkliston, Midlothian; Merchant.

PANORA.—707,232. Cereal products for use as brown bread improvers, not being goods for sale in Northern Ireland. **The British Arkady Company, Limited,** Skerton Road, Old Trafford, Manchester, 16; Manufacturers.

FRUITFIELD.—707,492. Nuts (for food) for sale in England, Scotland, and Wales. **Field and Company Fruit Merchants, Limited,** Turban House, 3, Eastcheap, London, E.C.3; Import and Export Merchants.

VITORANGE.—707,698. Pharmaceutical preparations containing vitamins and natural oil of orange in tablet form for human use. **Thos. Guest and Company, Limited,** 92, Carruthers Street, Ancoats, Manchester, 4; Manufacturing Chemists.

HONEY-PAT.—707,738. Dried fruit and desiccated coconut. **George's Roasted Peanuts, Limited,** 16, Burford Road, Stratford Market, London, E.15; Produce Merchants.

ALBUTEX.—708,221. Meringue concentrate being preparations containing gelatine, processed eggs, sugar, glucose, and malt flour. **C. H. Trengove and Company, Limited,** 165, Bermondsey Street, London, S.E.1; Manufacturers and Merchants.

Recent patents and trade marks have been selected from the "Official Journal of Patents" and the "Official Trade Marks Journal" and are published by permission of the Controller of H.M.S.O.

New Companies

Bard Bros., Limited. (512010.) 512a, Romford Road, London, E.7. To enter into an agreement for the acquisition of the stock, equipment, goodwill, trade marks, trade names, and designs of the business of table jelly and confectionery manufacturers carried on in partnership by Ben Bard and Alfred Bard as "Bard Bros." Nom. cap.: £60,000 in 600 "A" and 59,400 "B" shares of £1 each. Permt. dirs.: B. Bard, 35, Church Mount, London, N.2; A. Bard, 18, Southcote Road, Reading, Berks.

Propax, Limited. (512021.) 21, West Smithfield, London, E.C.1. To take over the registered trade mark or trade name "Propax" and to carry on the business of pea, potato, vegetable, fruit, and farm and general produce merchants, and in particular the business of preserving vegetables, fruit, and other produce, etc. Nom. cap.: £100 in £1 shares. Dirs.: A. T. Davies, 4, Cunningham Hill Road, St. Albans, Herts; G. E. Riches, 64, Harlington Road East, Feltham, Middlesex; S. E. Aukett, 15, Mortlake Road, Ilford, Essex.

Como Confections, Limited. (512076.) The Elms, Church Road, Harold Wood, Essex. To take over the business of the manufacturing and retailing of confectionery and ice cream carried on at Harold Wood, Essex, by Como Confections. Nom. cap.: £500 in £1 shares. Dirs.: A. L. Valente, 28, High Street, Walthamstow, London, E.17; W. H. Winter, 36, Fairborne Road, Tottenham, London, N.17.

Michel De Smet, Limited. (512107.) 39, New Broad Street, London, E.C.2. To carry on business of manufacturers of and dealers in biscuits, chocolate, confectionery, etc. Nom. cap.: £1,000 in £1 shares. Dirs.: M. De Smet, 9, Rue Guido Gezelle, Ghent, Belgium; Mrs. L. De Glas, Greet Hill, Black Hills, Esher, Surrey.

Supex (Manufacturers), Limited. (512136.) 174, Gresham House, Old Broad Street, London, E.C.2. To carry on the business of bakers and confectioners, manufacturers of, and dealers in every kind of food, substances used or capable of being used in the production of food, food machinery, and appliances, etc. Nom. cap.: £100 in £1 shares. Dirs.: Estelle Jacobs, 3, Douro Place, London, W.8; H. A. Crowe, 174, Gresham House, Old Broad Street, London, E.C.2.

Excellus Food Products, Limited. (512182.) Nom. cap.: £100 in £1 shares. Dirs.: to be appointed by subs. Subs.: Jean Herbert (co. dir.) and Claire Moore (secy.), 128, Albany Street, N.W.1.

Booth (Croydon), Limited. (512286.) 23, Park Lane, London, W.1. To carry on business of confectioners, chocolate and sweet vendors, factors and manufacturers, etc. Nom. cap.: £500 in £1 shares. Dirs.: Mrs. N. Glazer and J. Glazer, 43, Fitzjames Avenue, Croydon; A. W. Booth, 137, Milne Park East, New Addington.

Victor Hardman (Paper), Limited. (512341.) 19, Wynyard Close, Sale, Cheshire. To carry on business of manufacturers of and dealers in paper and film bags and wrappers, etc. Nom. cap.: £1,500 in £1 shares. Dirs.: V. Hardman and Elsie Hardman, Malvern, 19, Wynyard Close, Sale, Cheshire.

From Jordan and Sons, Limited, Company Registration Agents, 116, Chancery Lane, London, W.C.2.